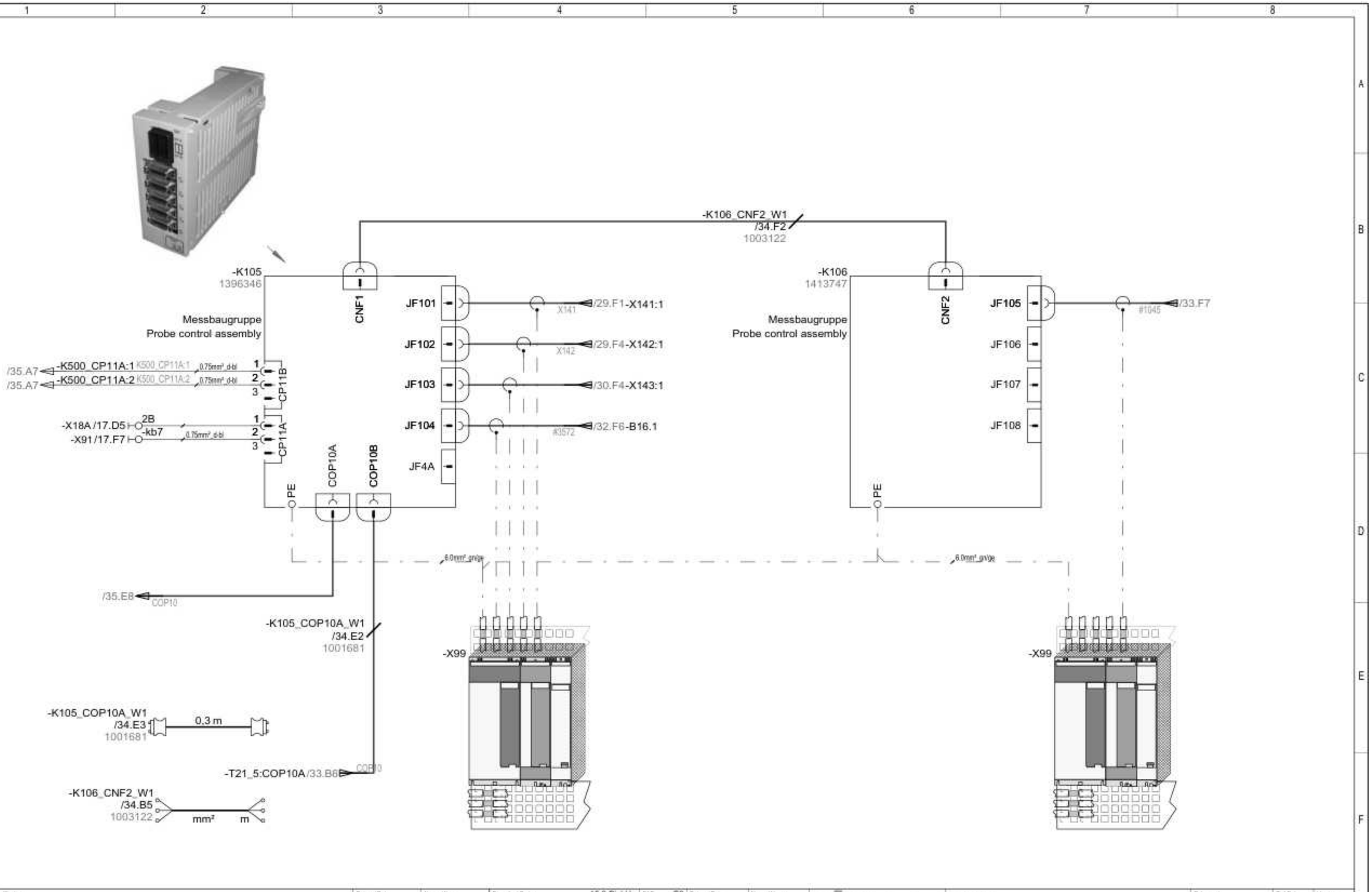

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	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			

Ursprung Source

Auftrag / Order 259292

Maßstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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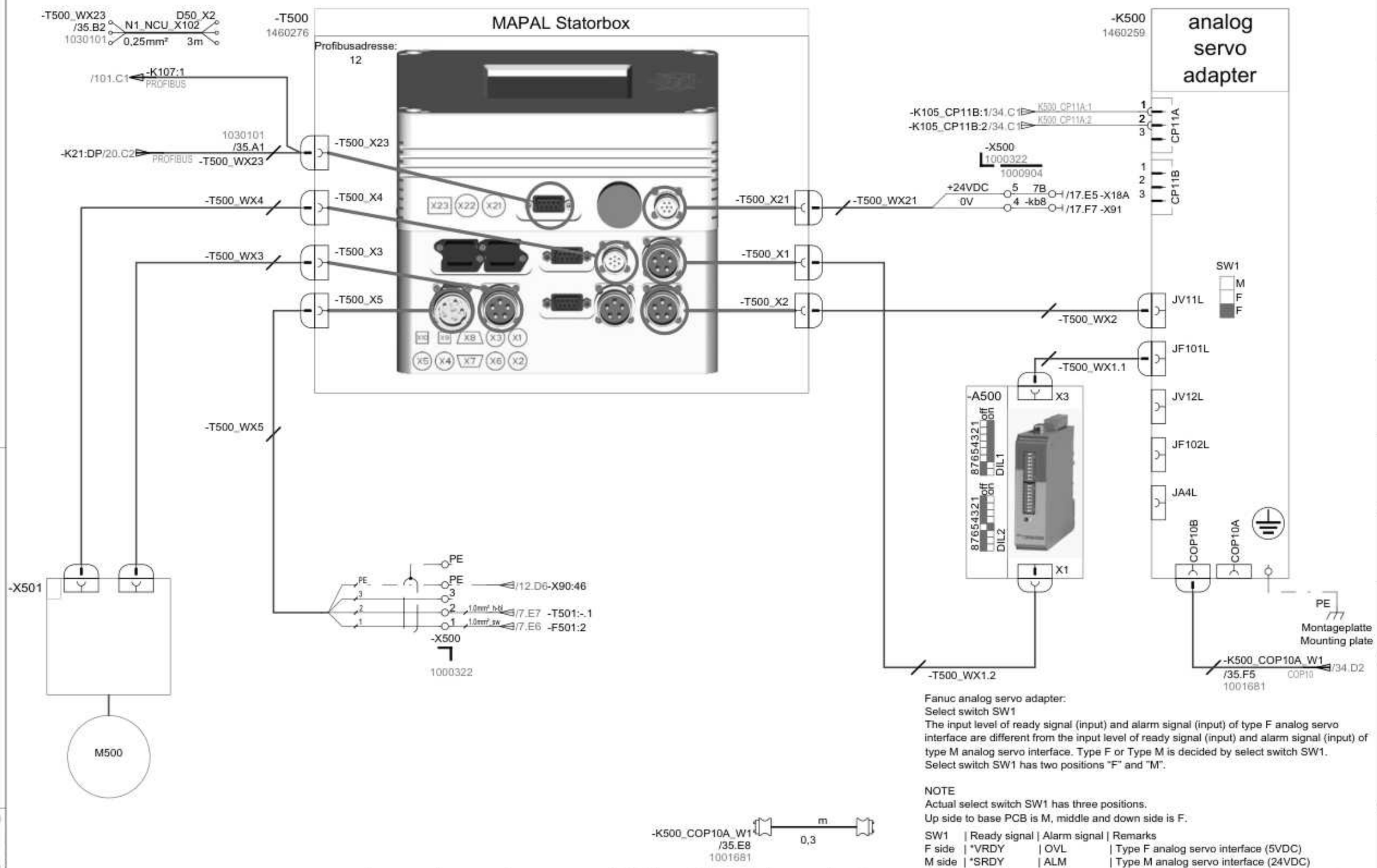
Benennung/Title
Laengenmesssystem X, Y, Z, 4. und 5. Achse
Length measuring system X, Y, Z, 4th and 5th Axis

Ers.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	34
Masch.-Nr./Machine no.		28656



Fanuc analog servo adapter:
Select switch SW1
The input level of ready signal (input) and alarm signal (input) of type F analog servo interface are different from the input level of ready signal (input) and alarm signal (input) of type M analog servo interface. Type F or Type M is decided by select switch SW1.
Select switch SW1 has two positions "F" and "M".

NOTE
Actual select switch SW1 has three positions.
Up side to base PCB is M, middle and down side is F.

SW1	Ready signal	Alarm signal	Remarks
F side	*VRDY	OVL	Type F analog servo interface (5VDC)
M side	*SRDY	ALM	Type M analog servo interface (24VDC)

Änderungen / Modifications	Datum / Date	Name / Name					
d			Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
c			Ausführung / Mech. type	W	Gez./Drawn	30.07.2014	GRUBERB
b			NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
a			Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
			E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Ursprung Source	Auftrag / Order 259292	Maßstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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Benennung/Title
Erweiterung MAPAL TOOLTRONIC & analog servo interface
Extension MAPAL TOOLTRONIC & analog servo interface
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	35
Masch.-Nr./Machine no.		28656

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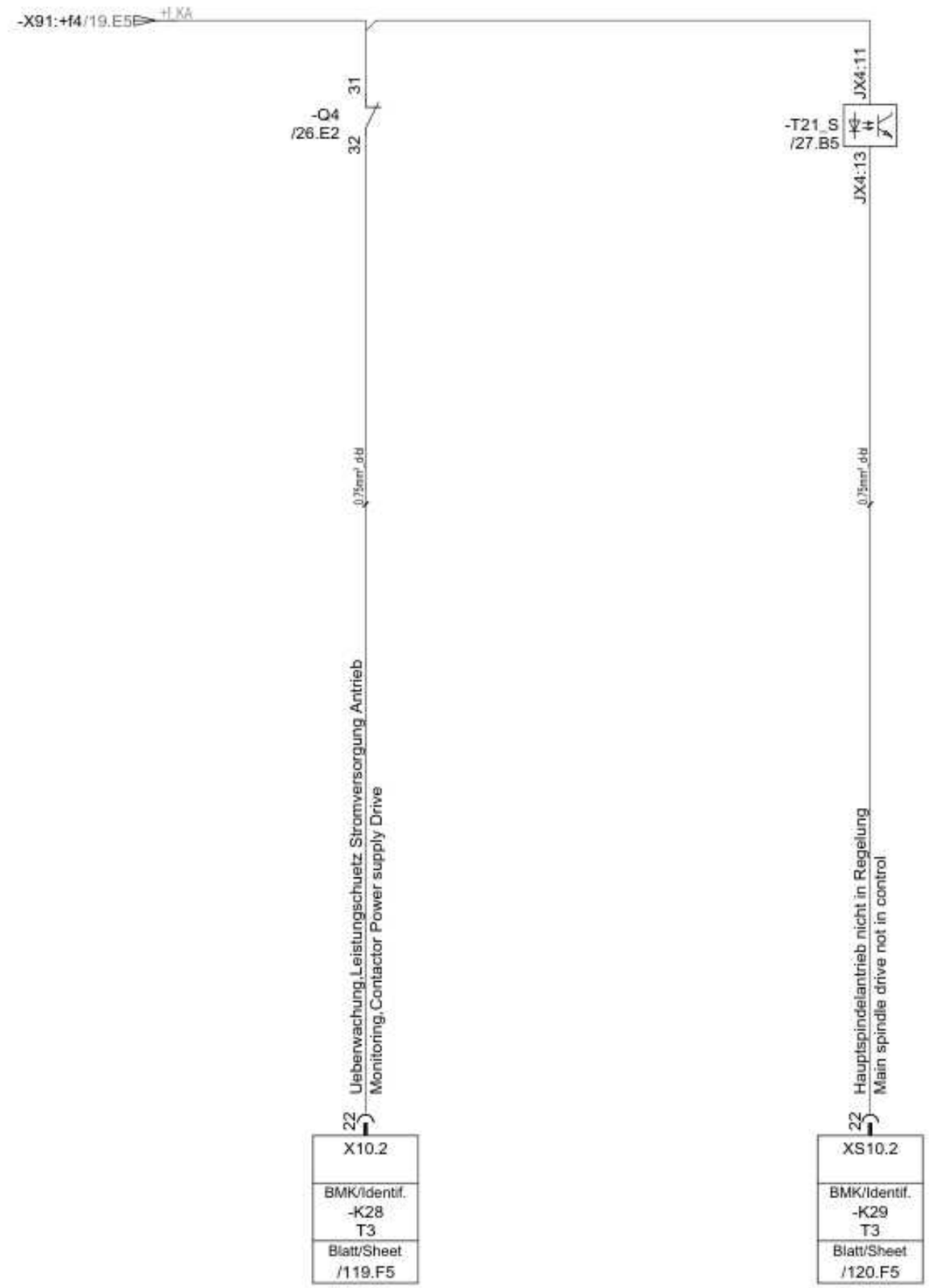
Stromlaufplan
date of saving: 11.11.2016 11:25 filename: 3210487_000_01
user: kehm
date of printing: 11.11.2016
E3 series



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series

	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			

Ursprung Source

Auftrag / Order	259292	Massstab / Scale	

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausfuehrung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modifs. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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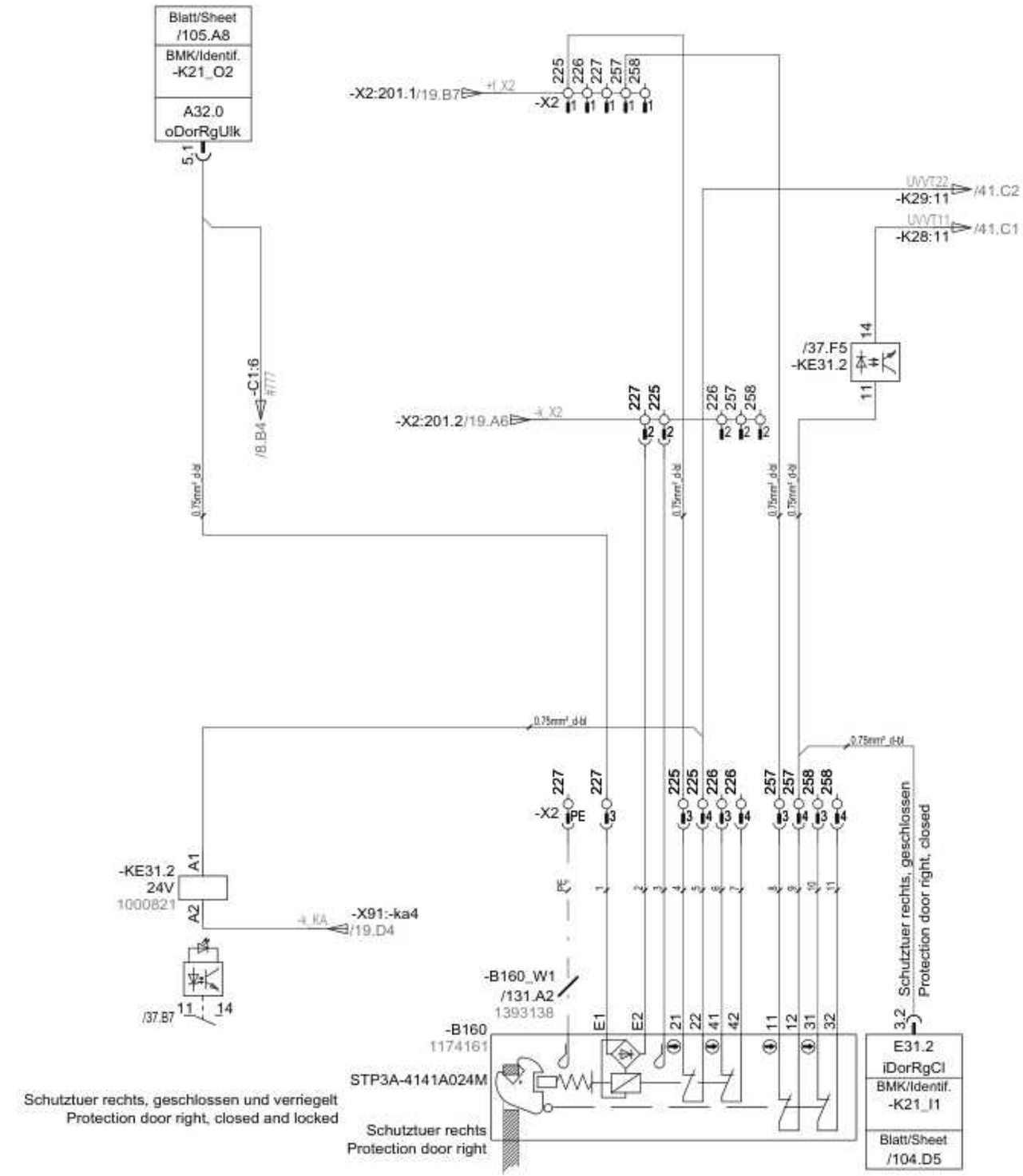
Benennung/Title
Ueberwachung, Hauptspindel
Monitoring, Main spindle

Erg.-Benennung/Additional title

Dokument / Document	3210487	Teil-Dok. / Doc.-part	000
Version / Version	01		
Status/Status	FR	Blatt/Sheet	36
Masch.-Nr./Machine no.	28656		



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E3 series

Änderungen / Modifications	Datum / Date	Name / Name	Baureihe / Series 15.3 PickUp	CAD E3	Datum / Date	Name / Name
d			Ausführung / Mach. type W	Gez./Drawn	30.07.2014	GRUBERB
c			NC-Typ / Type NC Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
b			Antriebe / Drives 400V/HVI	Freig./Approv.	11.11.2016	KEHM
a			E/A-Module / I/O-Modules Inline modular	Aend.-Nr. / Modific. no.		500000172977
Ursprung Source	Auftrag / Order 259292	Maßstab / Scale	Dokument Kunde / Document customer	Inv.-Nr. Kunde / Inv. no. customer		

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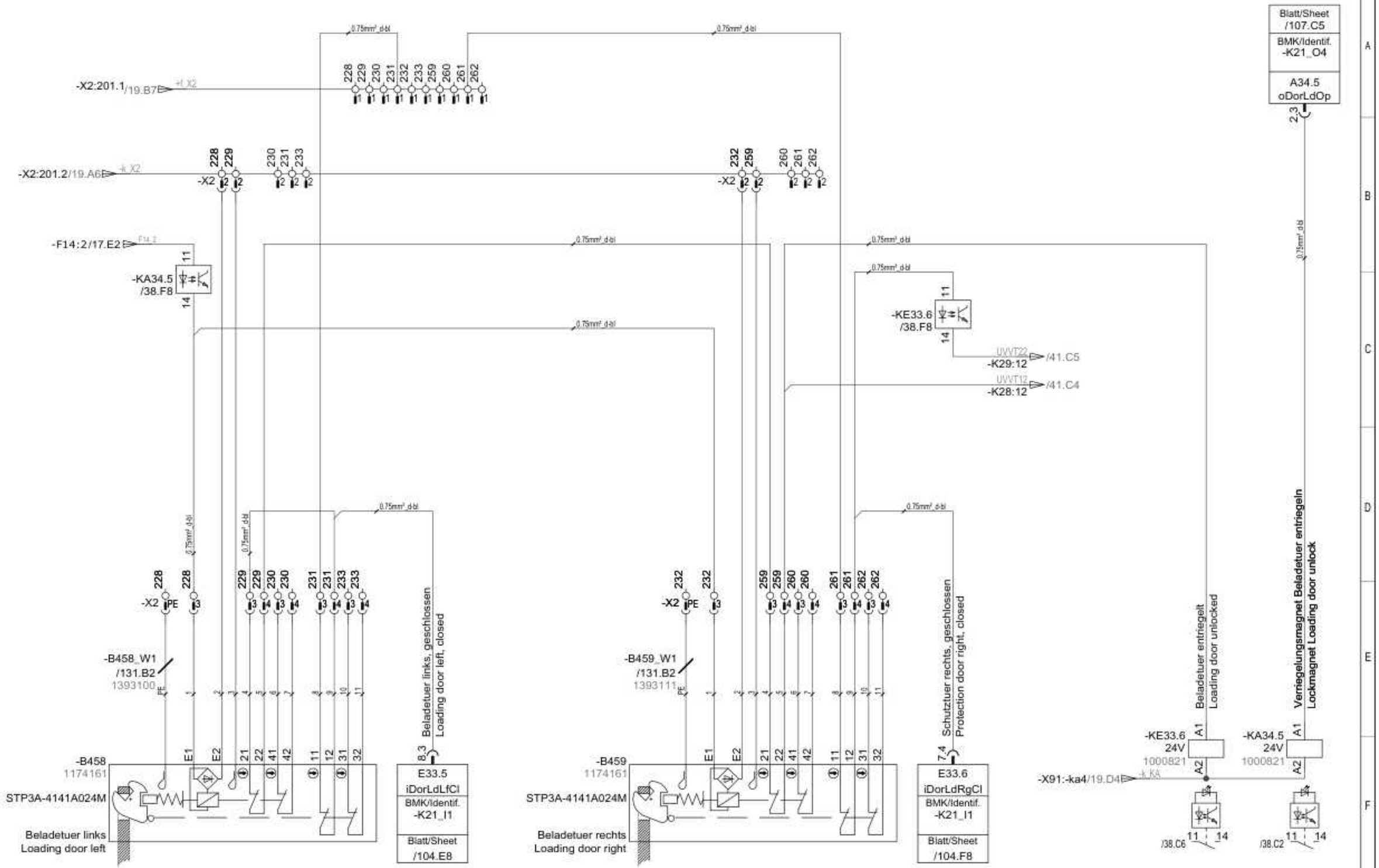
Benennung/Title
Schutztuer, Ueberwachung
Schutztuer, Ueberwachung
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	37
Masch.-Nr./Machine no.		28656



Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Maesstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
EA-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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Benennung/Title: Beladetuer, Sicherheitsschalter
Loading door, Safety switch
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	38
Masch.-Nr./Machine no.		28656

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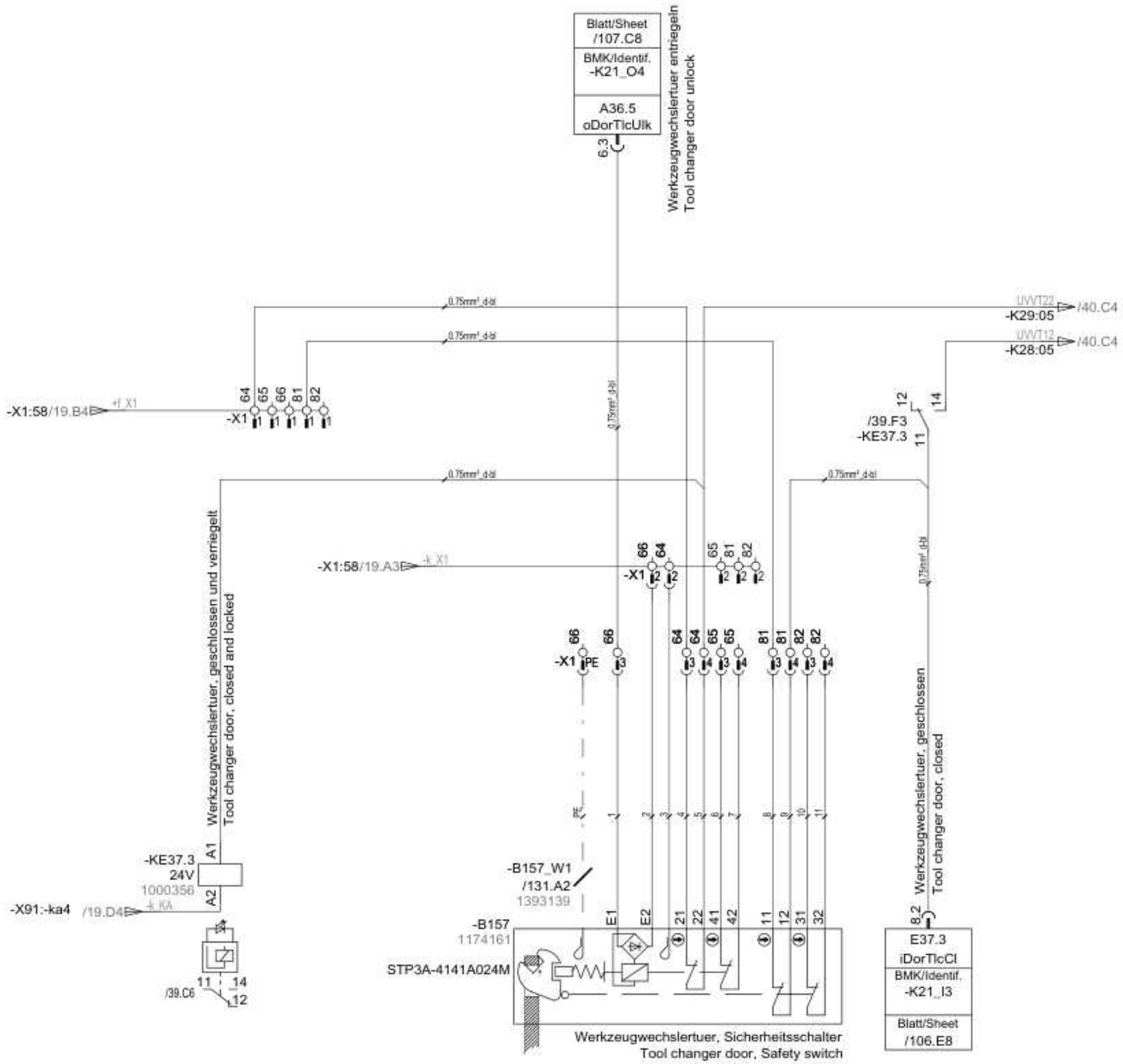

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	Änderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			
Ursprung Source		Auftrag / Order 259292	Maßstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name	
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB	
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM	
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM	
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977	
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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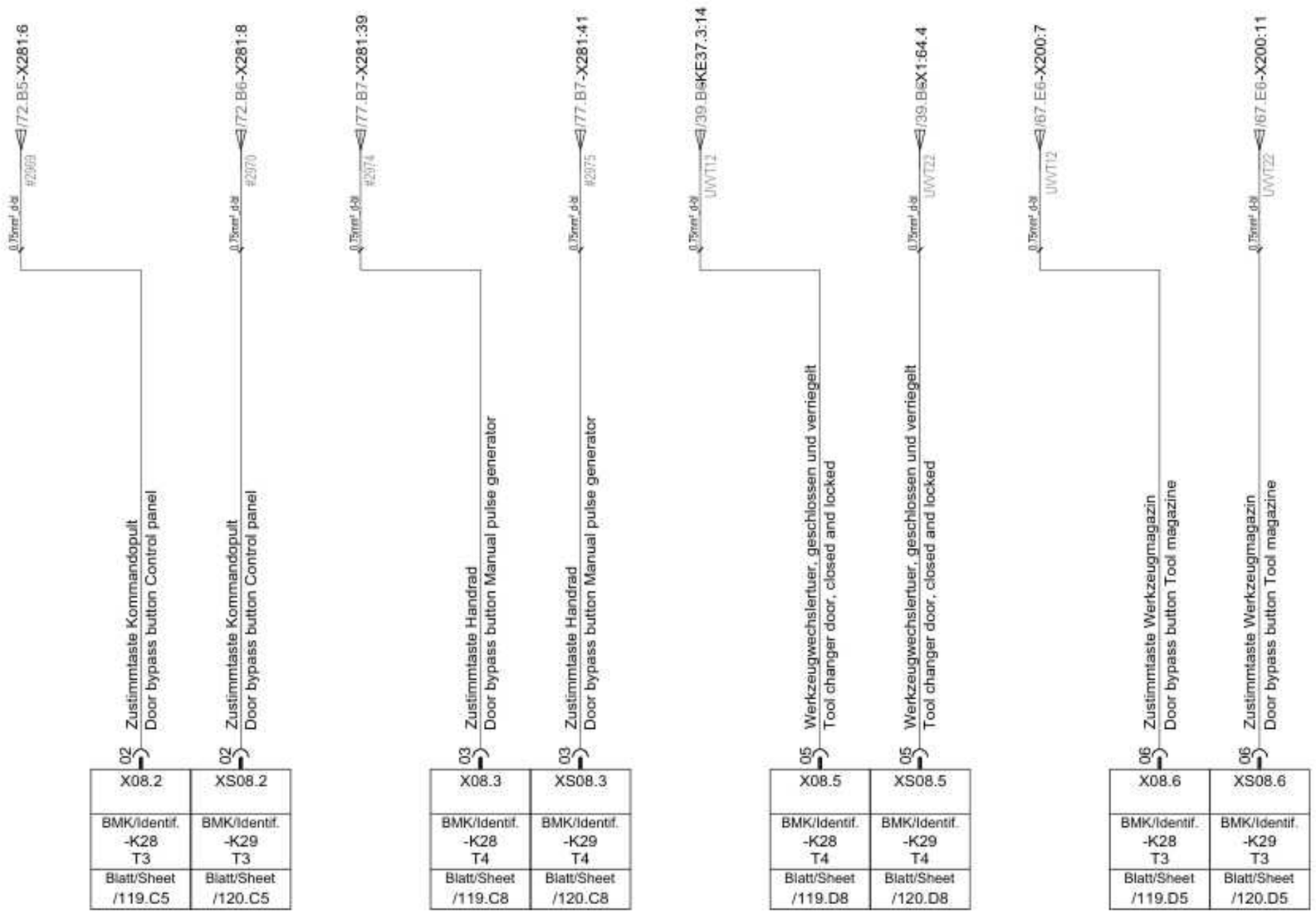
Benennung/Title
Werkzeugwechslertuer, Sicherheitsschalter
Tool changer door, Safety switch

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	39
Masch.-Nr./Machine no.		28656



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Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Maesstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausfuehrung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title: Zustimmtaste, Ueberwachung
Door bypass button, Monitoring
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	40
Masch.-Nr./Machine no.		28656

Schutztuer rechts
Protection door right

Beladetueren
Loading doors

/37.B8-KE31.2:14
0.75mm² dg
UVVT11

/37.B8-X2:225.4
0.75mm² dg
UVVT22

/38.C7-X2:259.4
0.75mm² dg
UVVT12

/38.C7-KE33.6:14
0.75mm² dg
UVVT22

11 Schutztuer rechts, geschlossen und verriegelt
Protection door right, closed and locked

11 Schutztuer rechts, geschlossen und verriegelt
Protection door right, closed and locked

12 Beladetueren geschlossen und verriegelt
Loading doors closed and locked

12 Beladetueren geschlossen und verriegelt
Loading doors closed and locked

X09.1	XS09.1	X09.2	XS09.2
BMK/Identif. -K28 T4	BMK/Identif. -K29 T4	BMK/Identif. -K28 T3	BMK/Identif. -K29 T3
Blatt/Sheet /119.D8	Blatt/Sheet /120.D8	Blatt/Sheet /119.D5	Blatt/Sheet /120.D5

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E3 series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		

Ursprung Source

Auftrag / Order 259292

Maesstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausfuehrung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
EA-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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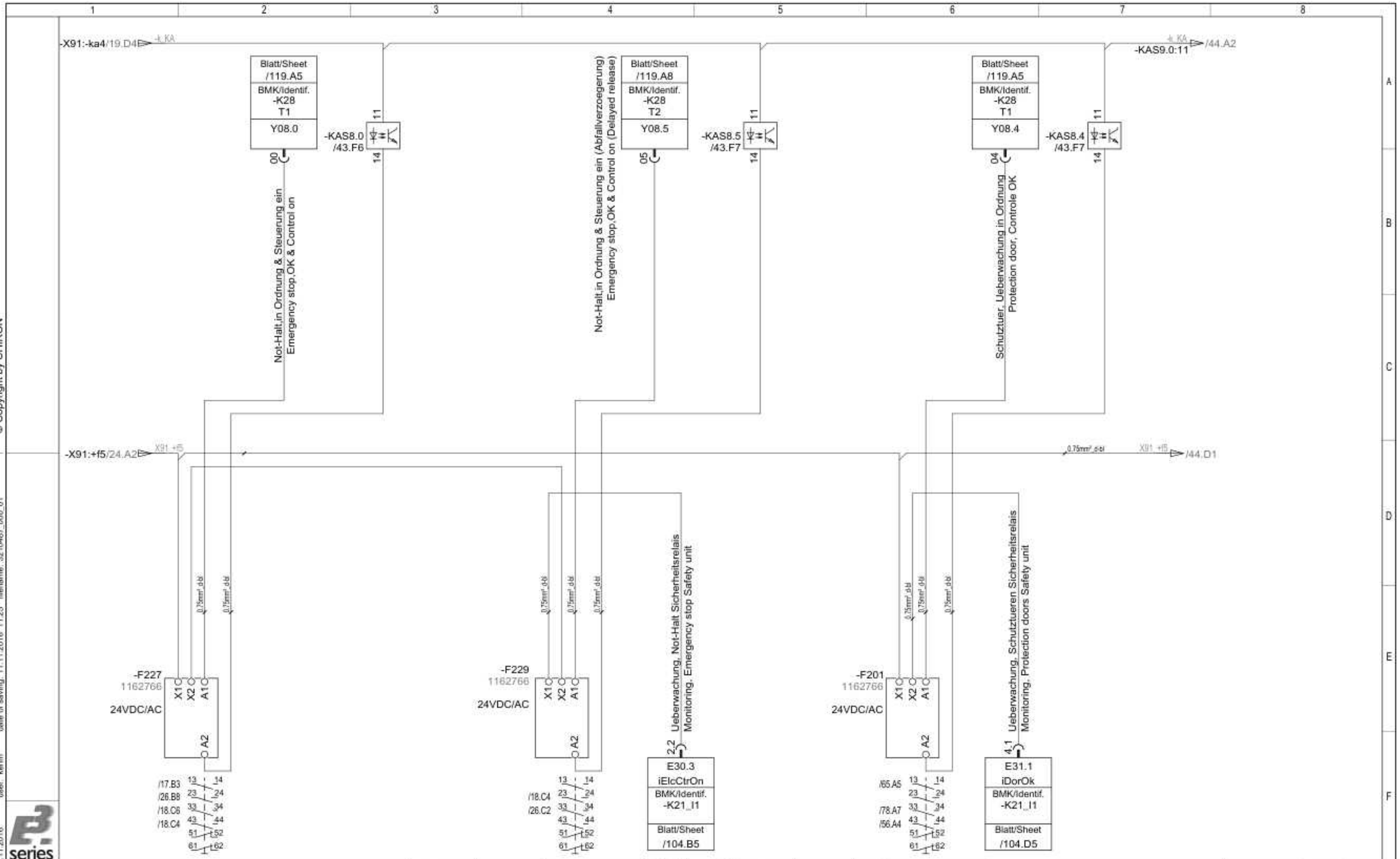
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Schutztueren, Ueberwachung
Protection doors, Monitoring

Erg.-Benennung/Additional title

Dokument Document	Teil-Dok. Doc.-part	Version Version
3210487	000	01
Status/Status FR	Blatt/Sheet	41
Masch.-Nr./Machine no.		28656



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	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			

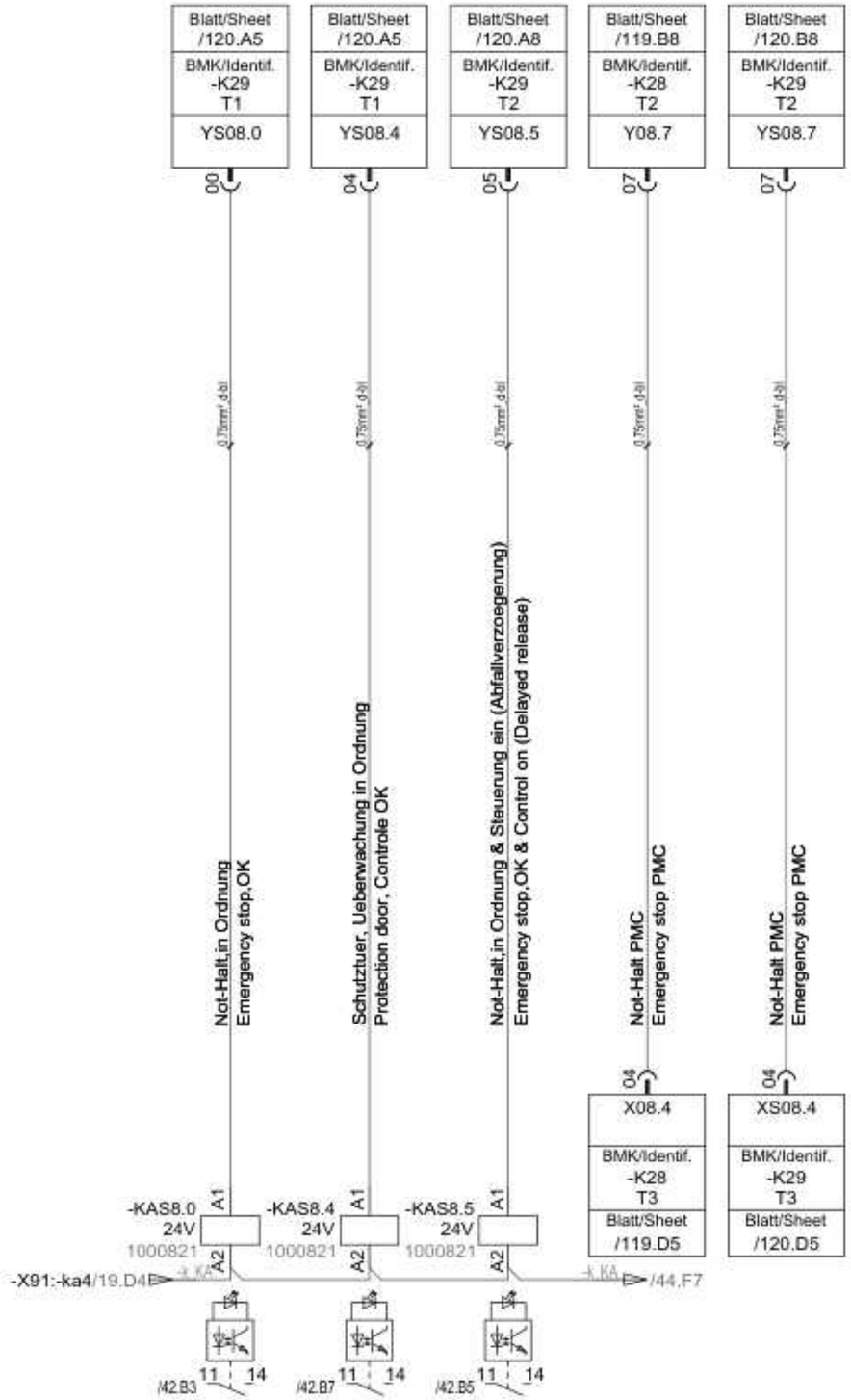
Ursprung Source | Auftrag / Order 259292 | Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausfuehrung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
EA-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Sicherheitsrelais (Not-Halt / Schutztuer)
Safety unit (Emergency stop / Protection door)
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	42
Masch.-Nr./Machine no.		28656



	Aenderungen / Modifications	Datum / Date	Name / Name				
d				Baureihe / Series 15.3 PickUp	CAD E3	Datum / Date	Name / Name
c				Ausführung / Mach. type W	Gez./Drawn	30.07.2014	GRUBERB
b				NC-Typ / Type NC Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
a				Antriebe / Drives 400V/HVI	Freig./Approv.	11.11.2016	KEHM
				E/A-Module / I/O-Modules Inline modular	Aend.-Nr. / Modifs. no.		500000172977
Ursprung Source		Auftrag / Order 259292	Massstab / Scale	Dokument Kunde / Document customer	Inv.-Nr. Kunde / Inv. no. customer		

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Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Sicherheitsrelais (Not-Halt / Schutztuer)
Safety unit (Emergency stop / Protection door)
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	43
Masch.-Nr./Machine no.		28656

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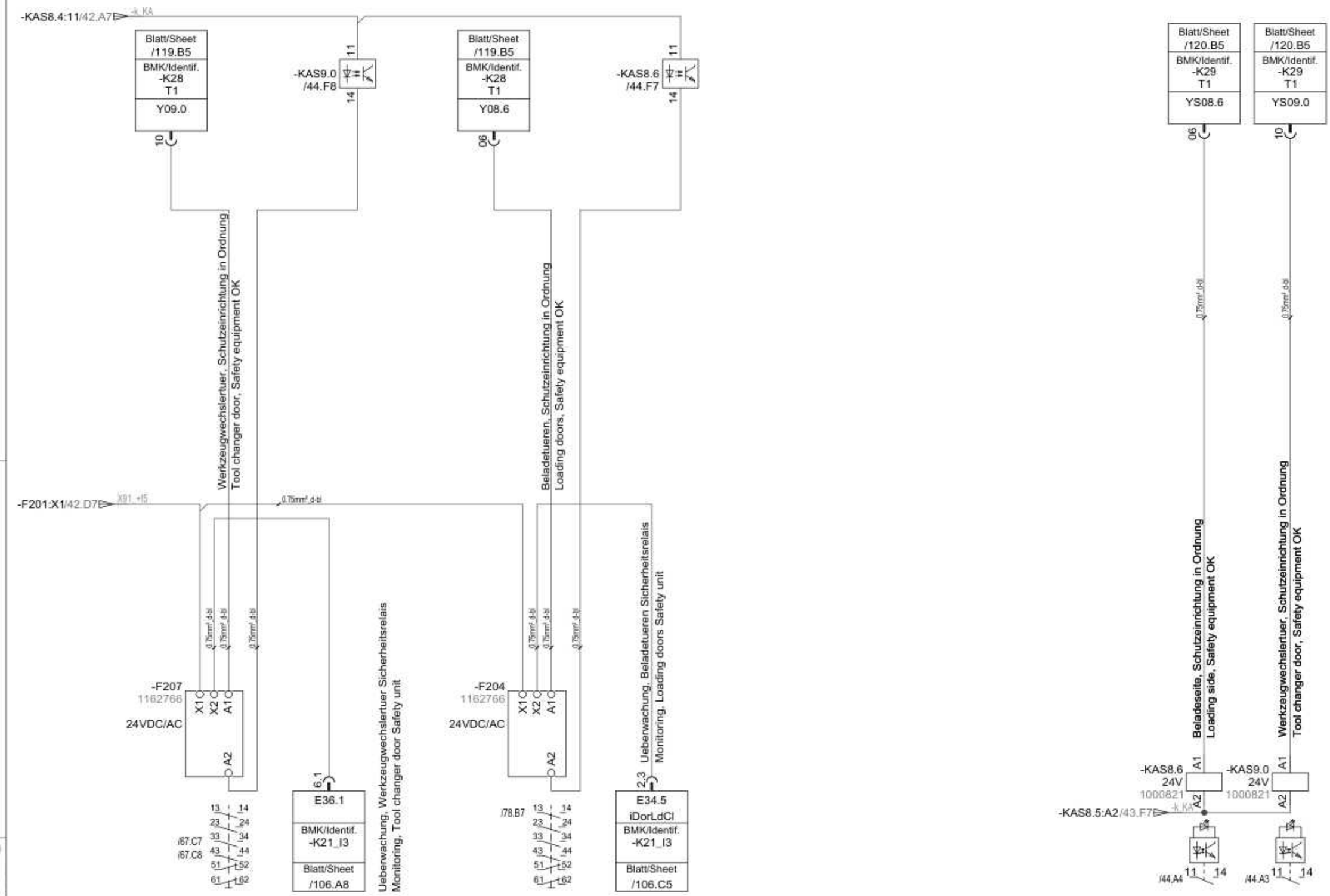
E3 series



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	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			

Ursprung Source | Auftrag / Order 259292 | Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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Benennung/Title
Sicherheitsrelais (Beladetueren/Werkzeugwechslertuer/Lader)
Safety unit (Loading doors/Tool changer door/Loader)
Ers.-Benennung/Additional title

Dokument / Document	3210487	Teil-Dok. / Doc.-part	000
Version / Version	01	Status/Status	FR
Blatt/Sheet	44	Masch.-Nr./Machine no.	28656

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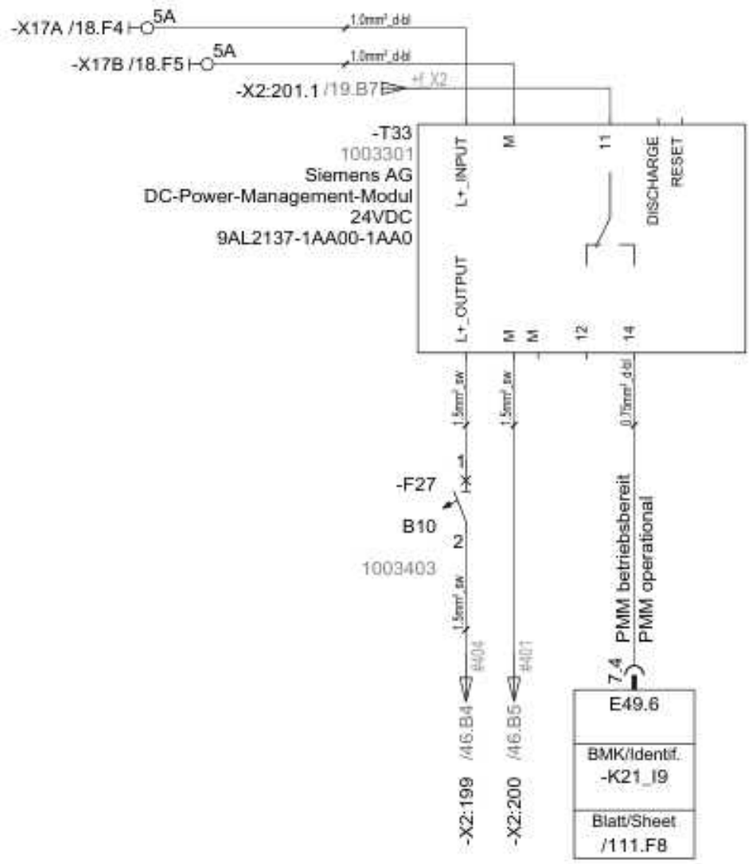

	Änderungen / Modifications	Datum / Date	Name / Name						
d				Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name	
c				Ausführung / Mech. type	W	Gez./Drawn	30.07.2014	GRUBERB	
b				NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM	
a				Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM	
				E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977	
Ursprung Source		Auftrag / Order 259292	Maßstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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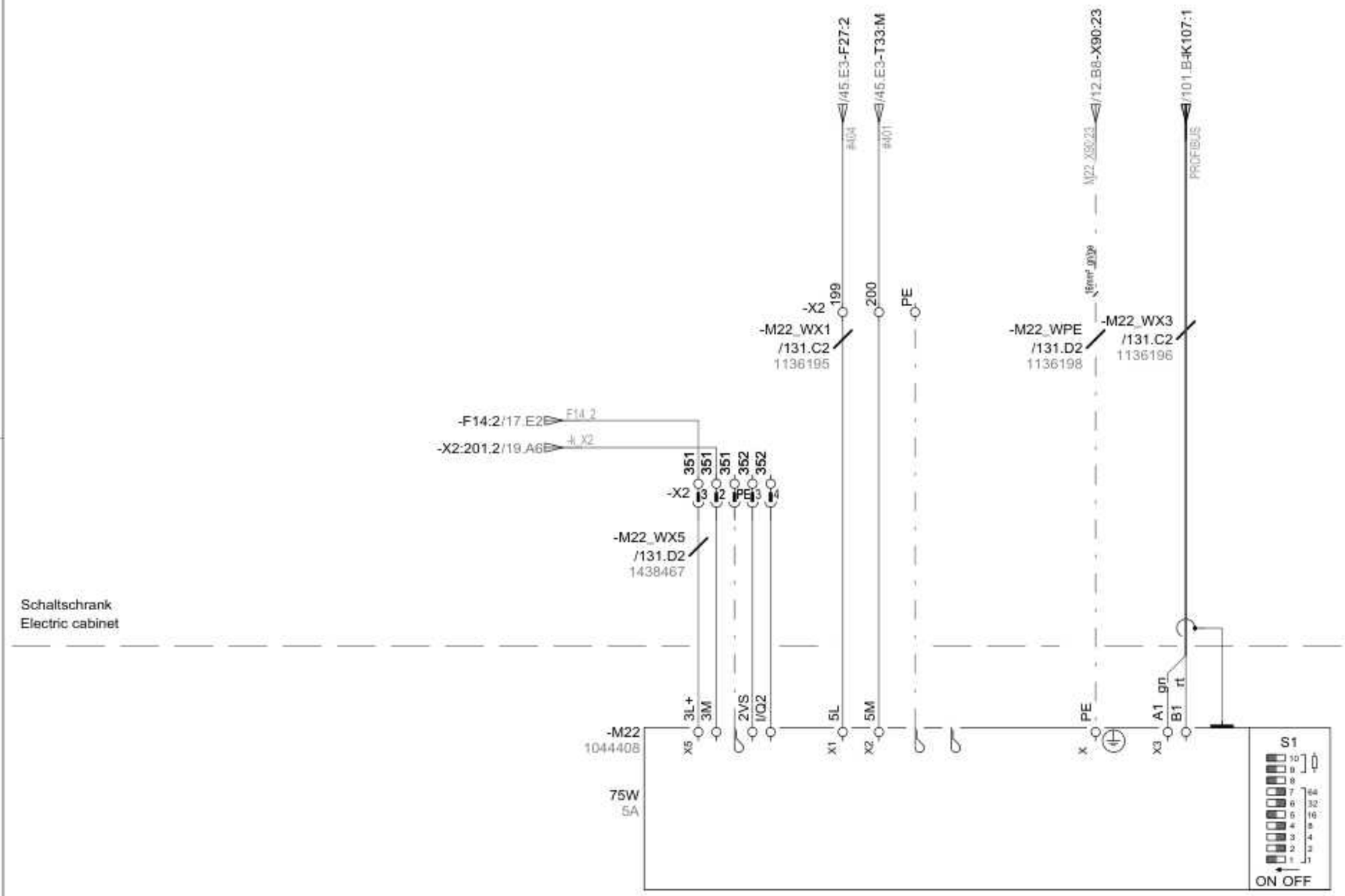
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Automatische Schutztuer
Automatic protection door

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	45
Masch.-Nr./Machine no.		28656

date of printing: 11.11.2016 user: kehm date of saving: 11.11.2016 11:25 filename: 3210487_000_01



Motor Automatische Schutztuer
Motor Automatic protection door

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Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Maesstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
EA-Module / I/O-Modules	Inline modular	Aenderungs-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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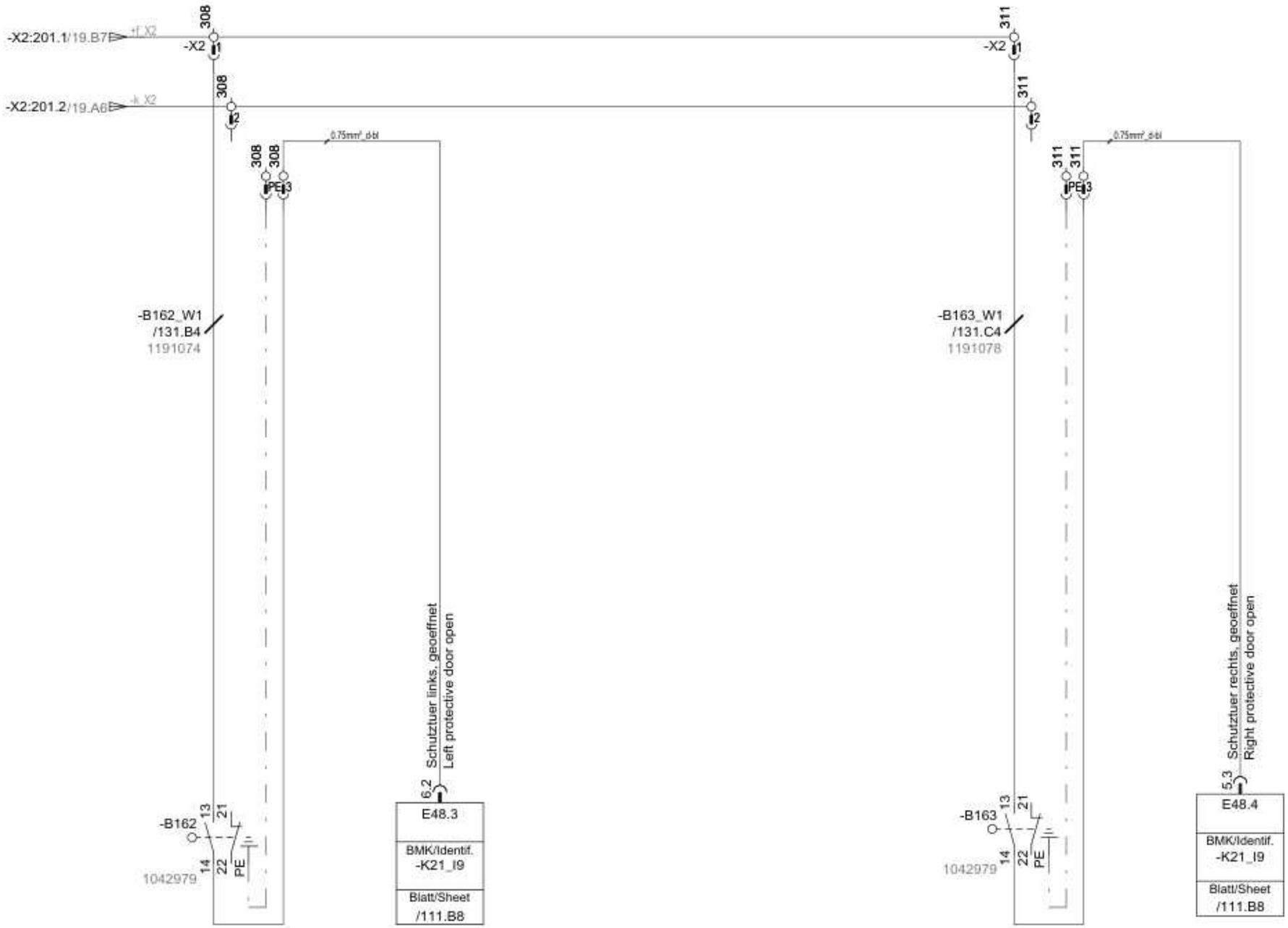
Benennung/Title
Automatische Schutztuer
Automatic protection door

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	46
Masch.-Nr./Machine no.		28656

E3 series



Aenderungen / Modifications	Datum / Date	Name / Name	Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
d			Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
c			NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
b			Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
a			EA-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Ursprung Source	Auftrag / Order 259292	Maesstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Automatische Schutztuer
Automatic protection door
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	47
Masch.-Nr./Machine no.		28656

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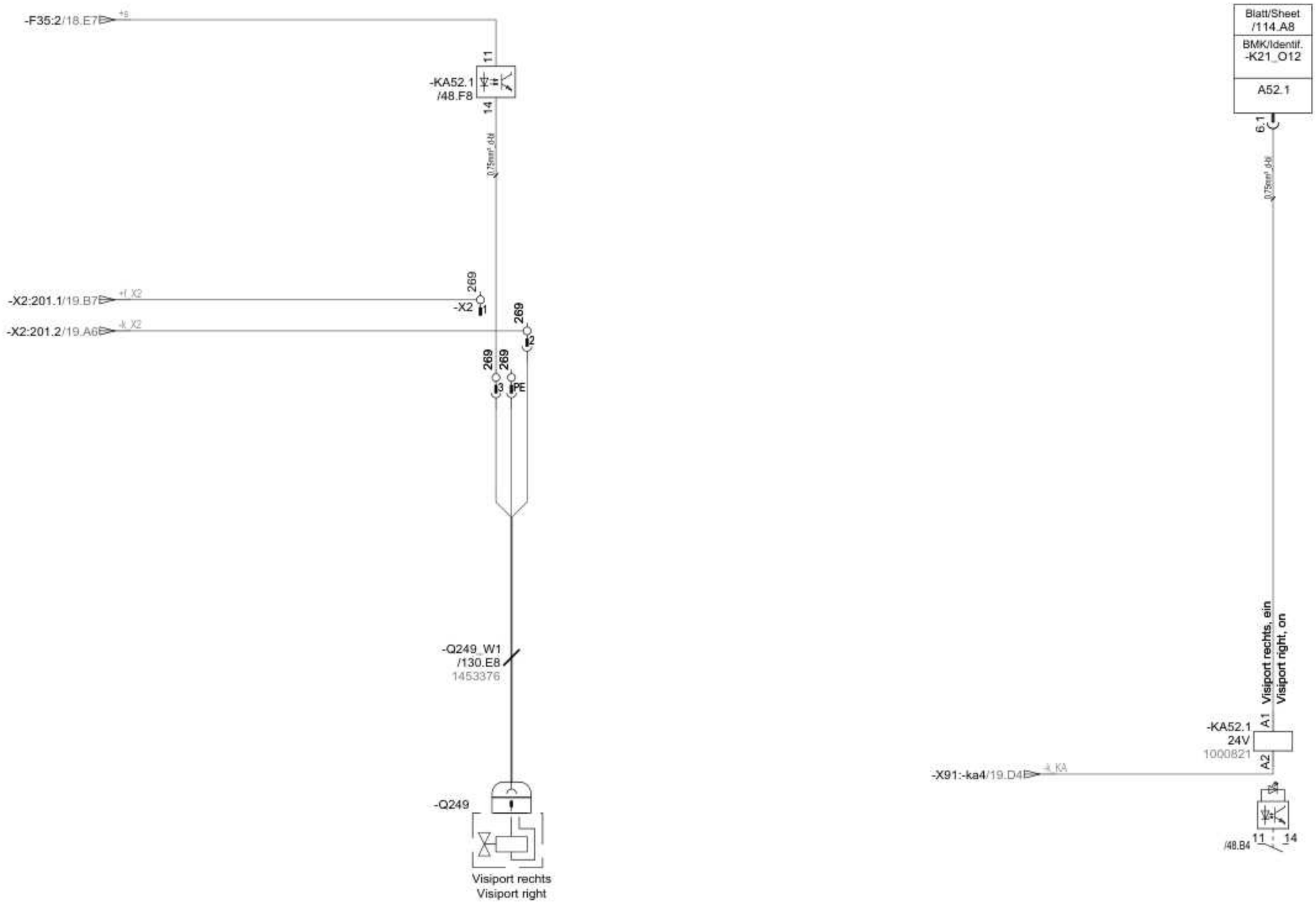
E3 series



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series

Änderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Maßstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Auftr.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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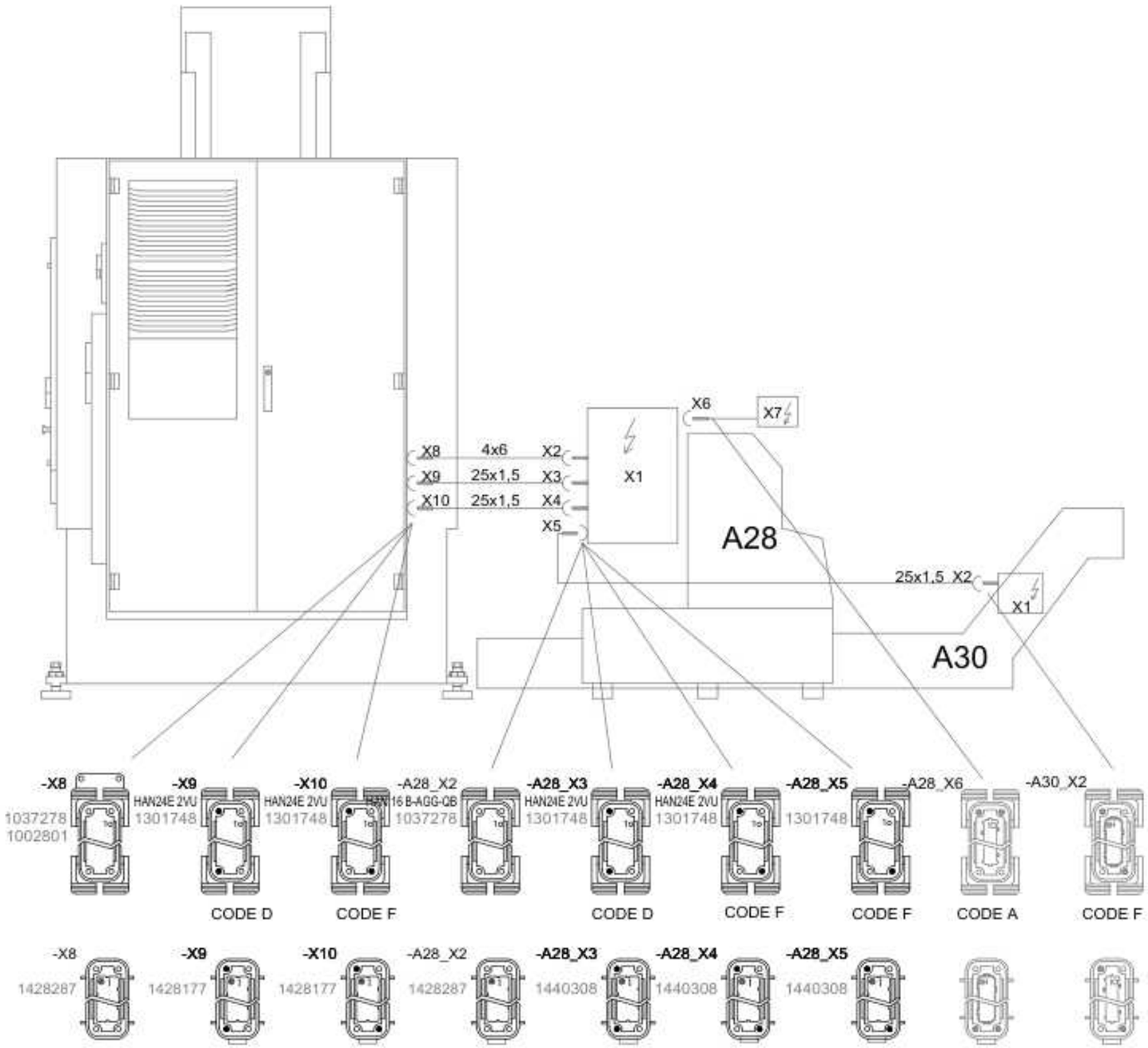
Benennung/Title
Visiport
Visiport

Erg.-Benennung/Additional title

Dokument Document	Teil-Dok. Doc.-part	Version Version
3210487	000	01
Status/Status FR	Blatt/Sheet	48
Masch.-Nr./Machine no.		28656



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series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modifs. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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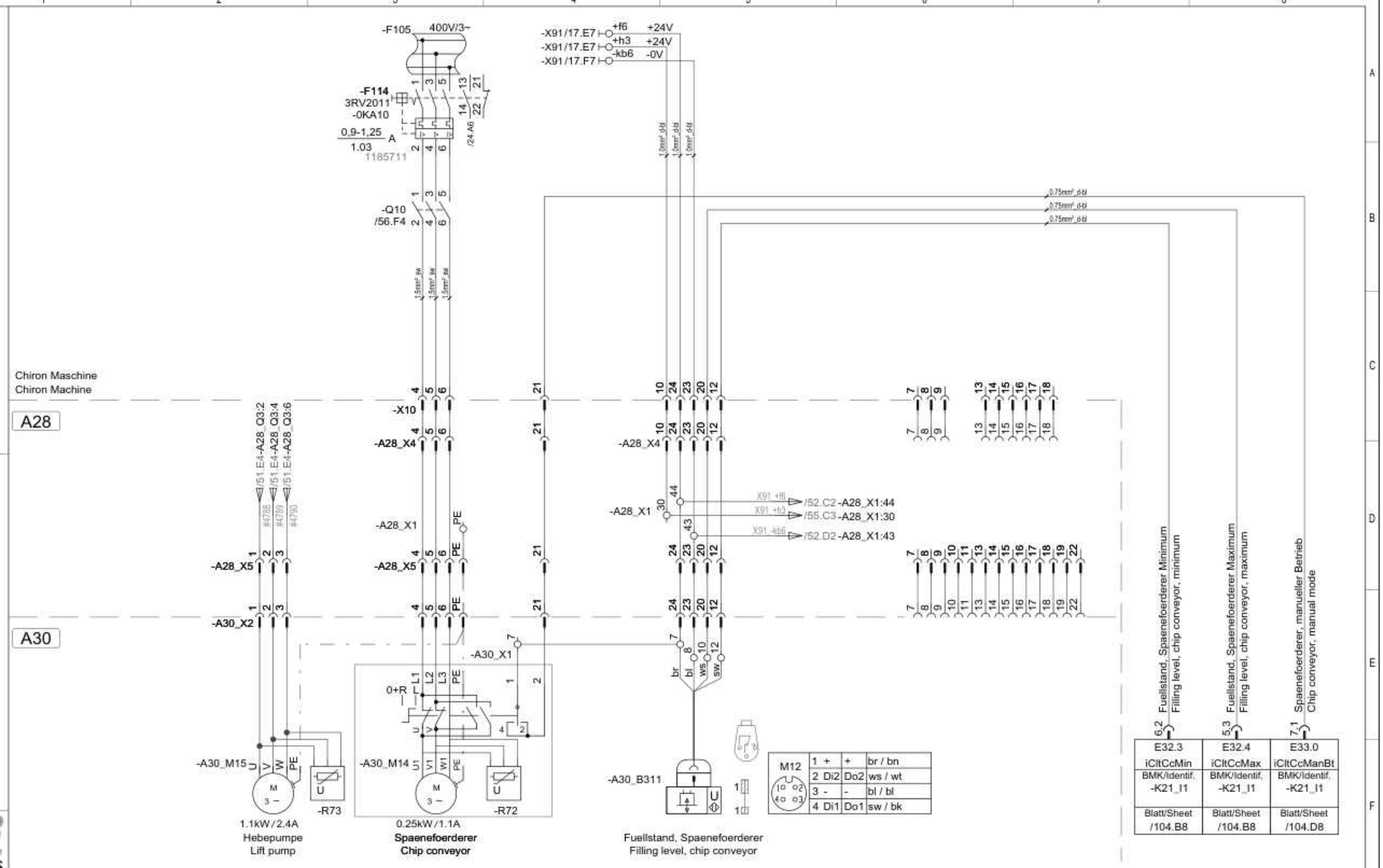
Benennung/Title
Kuehlmittelanlage Kabeluebersichtsplan
Coolant unit Total connection diagram
Erg.-Benennung/Additional title

Dokument Document	Teil-Dok. Doc.-part	Version Version
3210487	000	01
Status/Status FR	Blatt/Sheet	49
Masch.-Nr./Machine no.		28656



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E3 series

Änderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Maßstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name	
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB	
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM	
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM	
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977	
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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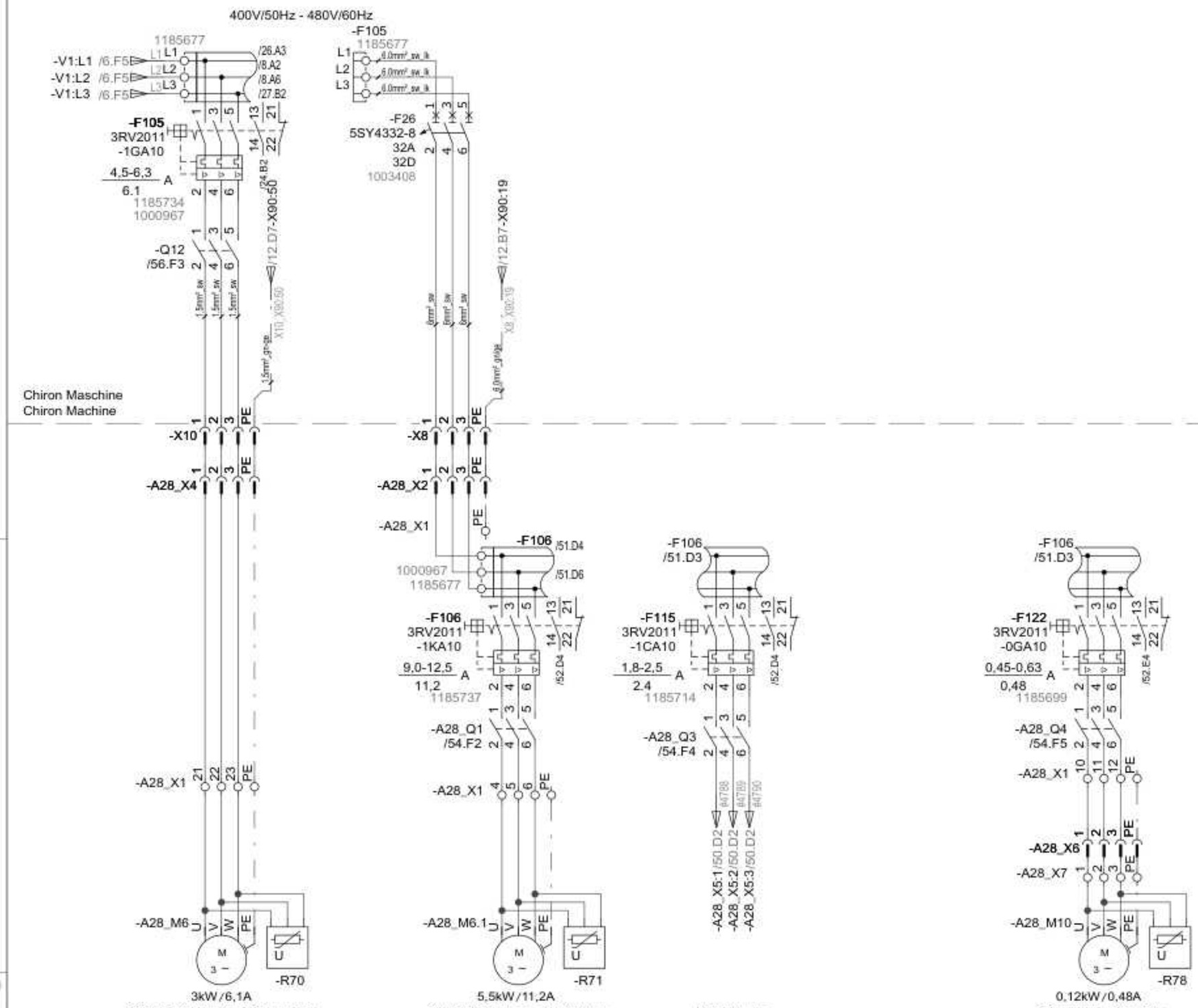
Benennung/Title
Kuehlmittel Spaenefoerderer
Coolant Chip conveyor
Erg.-Benennung/Additional title

Dokument Document	Teil-Dok. Doc.-part	Version Version
3210487	000	01
Status/Status FR	Blatt/Sheet	50
Masch.-Nr./Machine no.		28656



Aenderungen / Modifications	Datum / Date	Name / Name	Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
d			Ausfuehrung / Mech. type	W	Gez./Drawn		30.07.2014	GRUBERB
c			NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
b			Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
a			E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Ursprung Source	Auftrag / Order 259292	Massstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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Benennung/Title: Kuehlmittelanlage Motor
Coolant unit Motor
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status: FR	Blatt/Sheet	51
Masch.-Nr./Machine no.		28656

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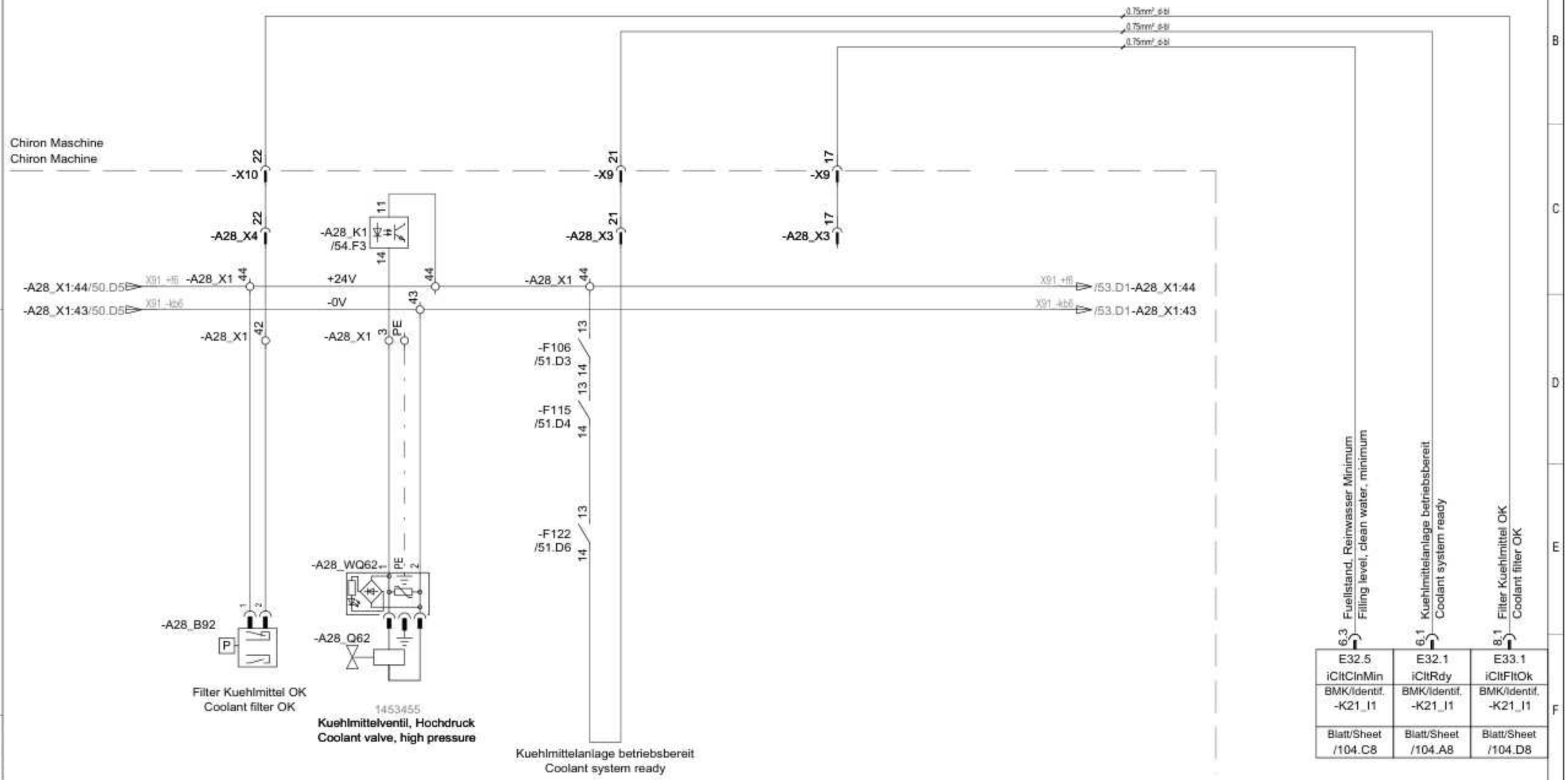

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Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31I B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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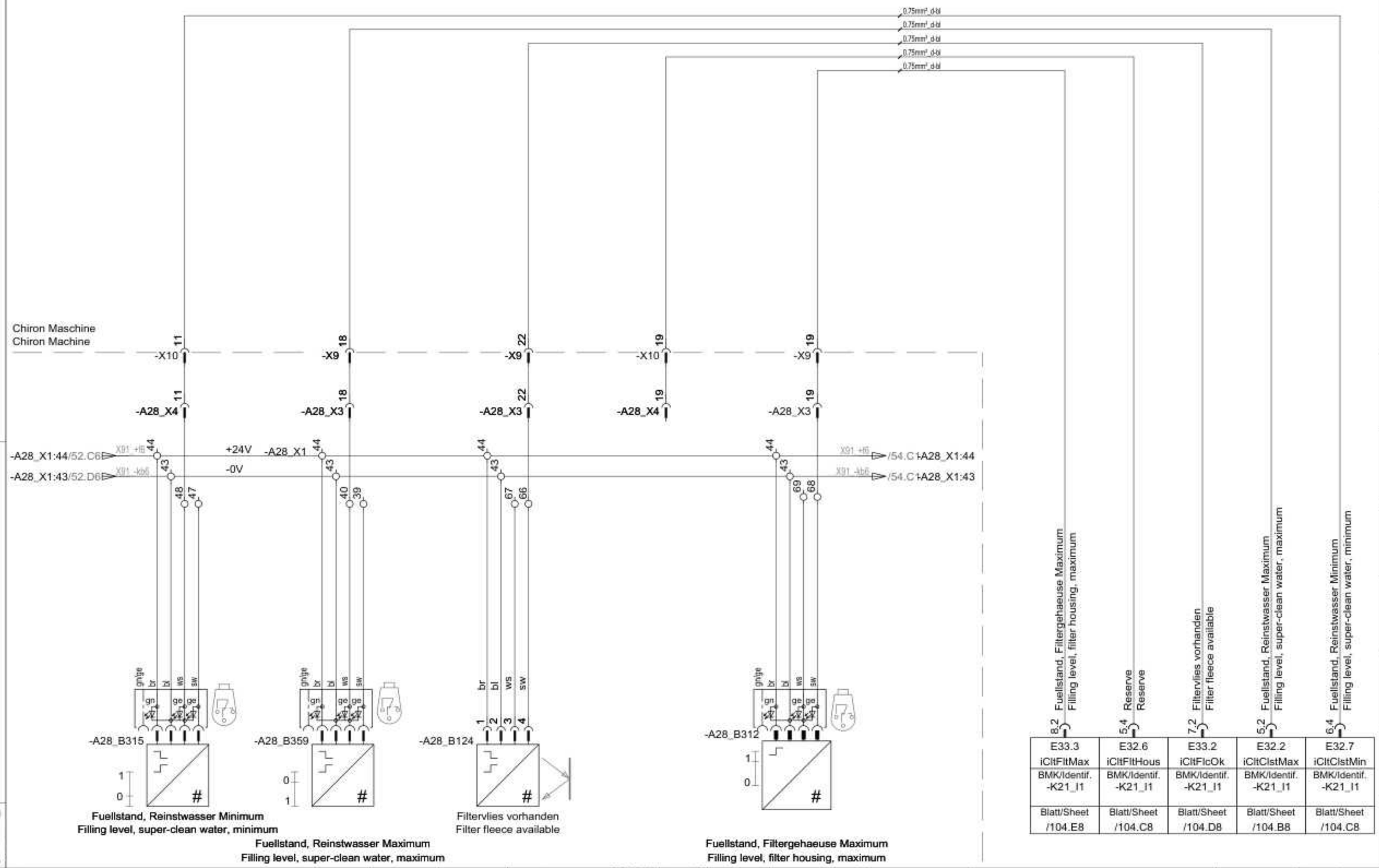
Benennung/Title: Kuehlmittelanlage Eingaenge
Coolant unit Inputs
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	52
Masch.-Nr./Machine no.		28656



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series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Maesstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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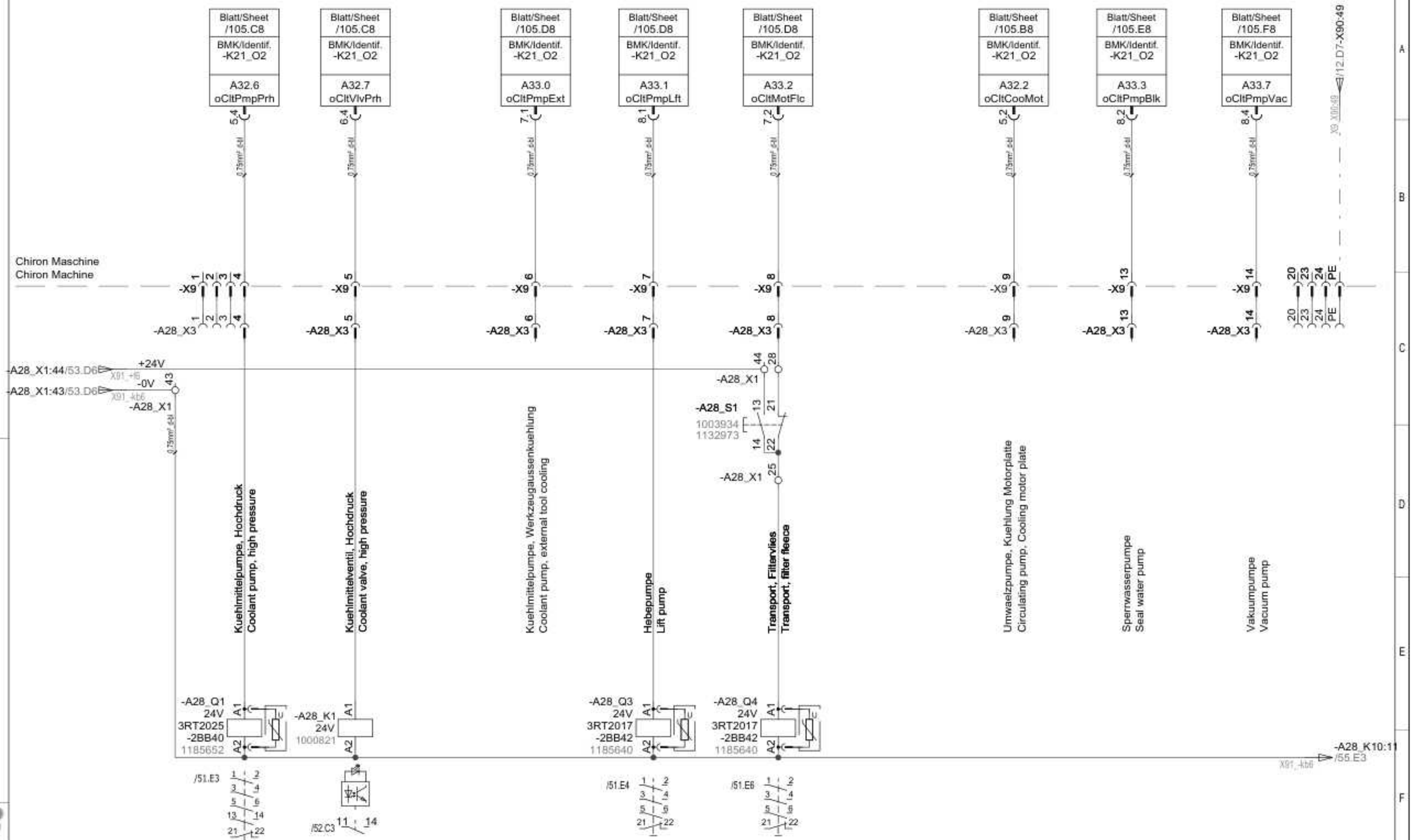
Benennung/Title
Kuehlmittelanlage TPF Eingaenge
Coolant unit TPF Inputs
Erg.-Benennung/Additional title

Dokument Document	Teil-Dok. Doc.-part	Version Version
3210487	000	01
Status/Status FR	Blatt/Sheet	53
Masch.-Nr./Machine no.		28656



Aenderungen / Modifications	Datum / Date	Name / Name	Baureihe / Series 15.3 PickUp	CAD E3	Datum / Date	Name / Name
d			Ausführung / Mach. type W	Gez./Drawn	30.07.2014	GRUBERB
c			NC-Typ / Type NC Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
b			Antriebe / Drives 400V/HVI	Freig./Approv.	11.11.2016	KEHM
a			E/A-Module / I/O-Modules Inline modular	Aenderungs-Nr. / Modific. no.		500000172977
Ursprung Source	Auftrag / Order 259292	Maßstab / Scale	Dokument Kunde / Document customer	Inv.-Nr. Kunde / Inv. no. customer		

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Benennung/Title
Kuehlmittelanlage Ausgaenge
Coolant unit Outputs
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	54
Masch.-Nr./Machine no.		28656

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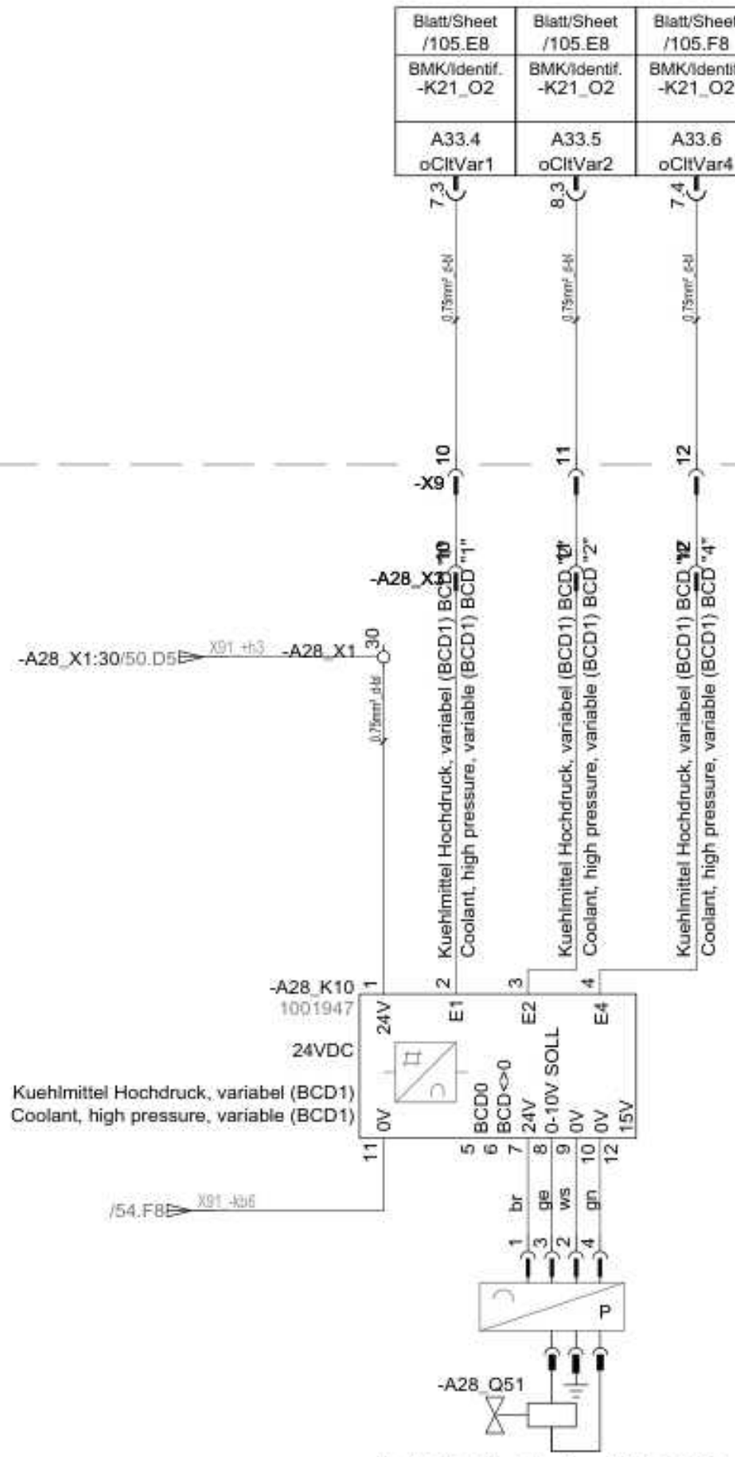

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Änderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Maßstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name	
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB	
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM	
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM	
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977	
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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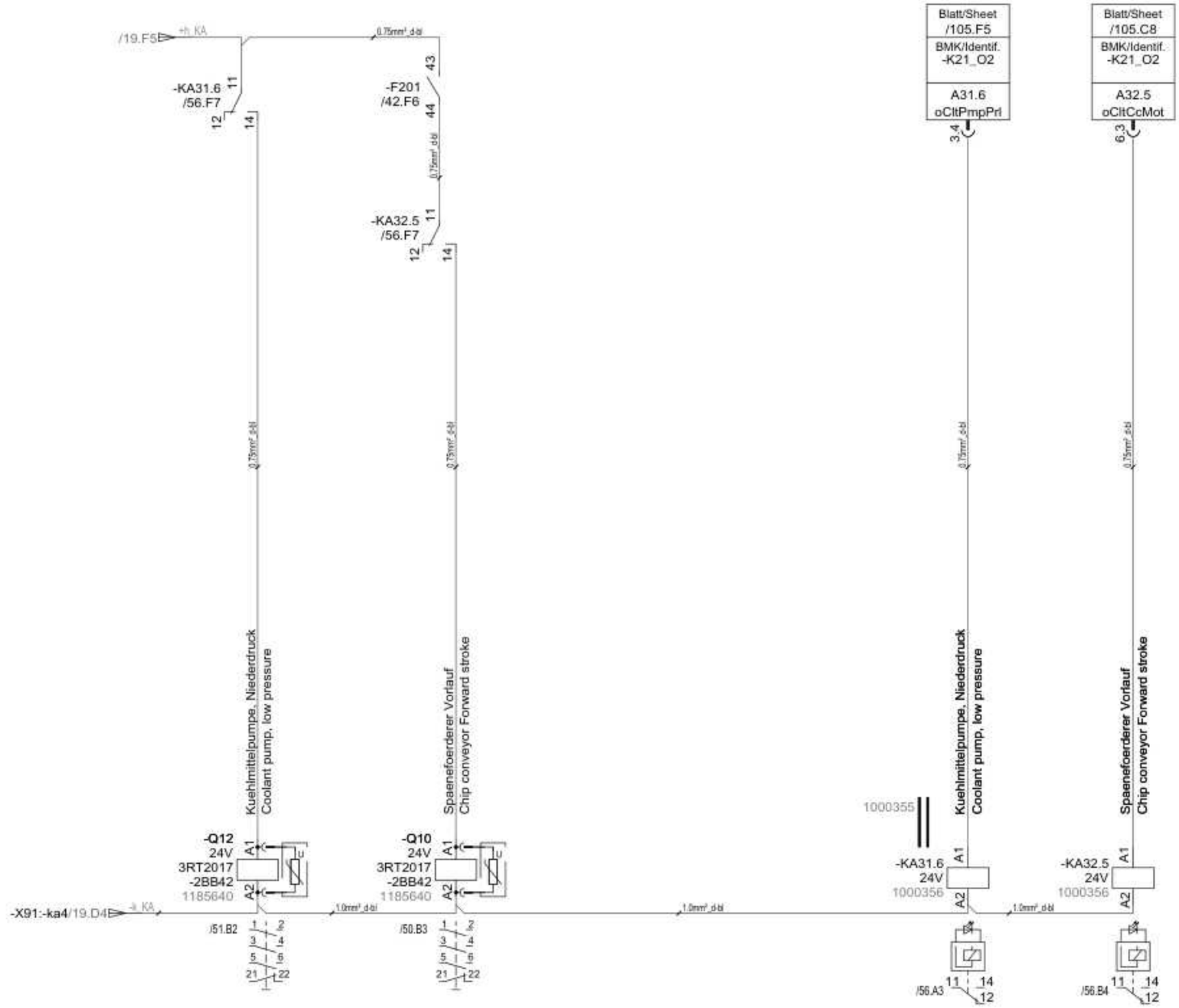
Benennung/Title
Kuehlmittel Hochdruck, variabel (BCD1)
Coolant, high pressure, variable (BCD1)
Erg.-Benennung/Additional title

Dokument Document	Teil-Dok. Doc.-part	Version Version
3210487	000	01
Status/Status FR	Blatt/Sheet	55
Masch.-Nr./Machine no.		28656



Aenderungen / Modifications	Datum / Date	Name / Name	Baureihe / Series 15.3 PickUp	CAD E3	Datum / Date	Name / Name
d			Ausführung / Mach. type W	Gez./Drawn	30.07.2014	GRUBERB
c			NC-Typ / Type NC Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
b			Antriebe / Drives 400V/HVI	Freig./Approv.	11.11.2016	KEHM
a			E/A-Module / I/O-Modules Inline modular	Aend.-Nr. / Modific. no.		500000172977
Ursprung Source	Auftrag / Order 259292	Maesstab / Scale	Dokument Kunde / Document customer	Inv.-Nr. Kunde / Inv. no. customer		

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Benennung/Title
Ausgaenge Kuehlmittelanlage
Outputs Coolant unit

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	56
Masch.-Nr./Machine no.		28656

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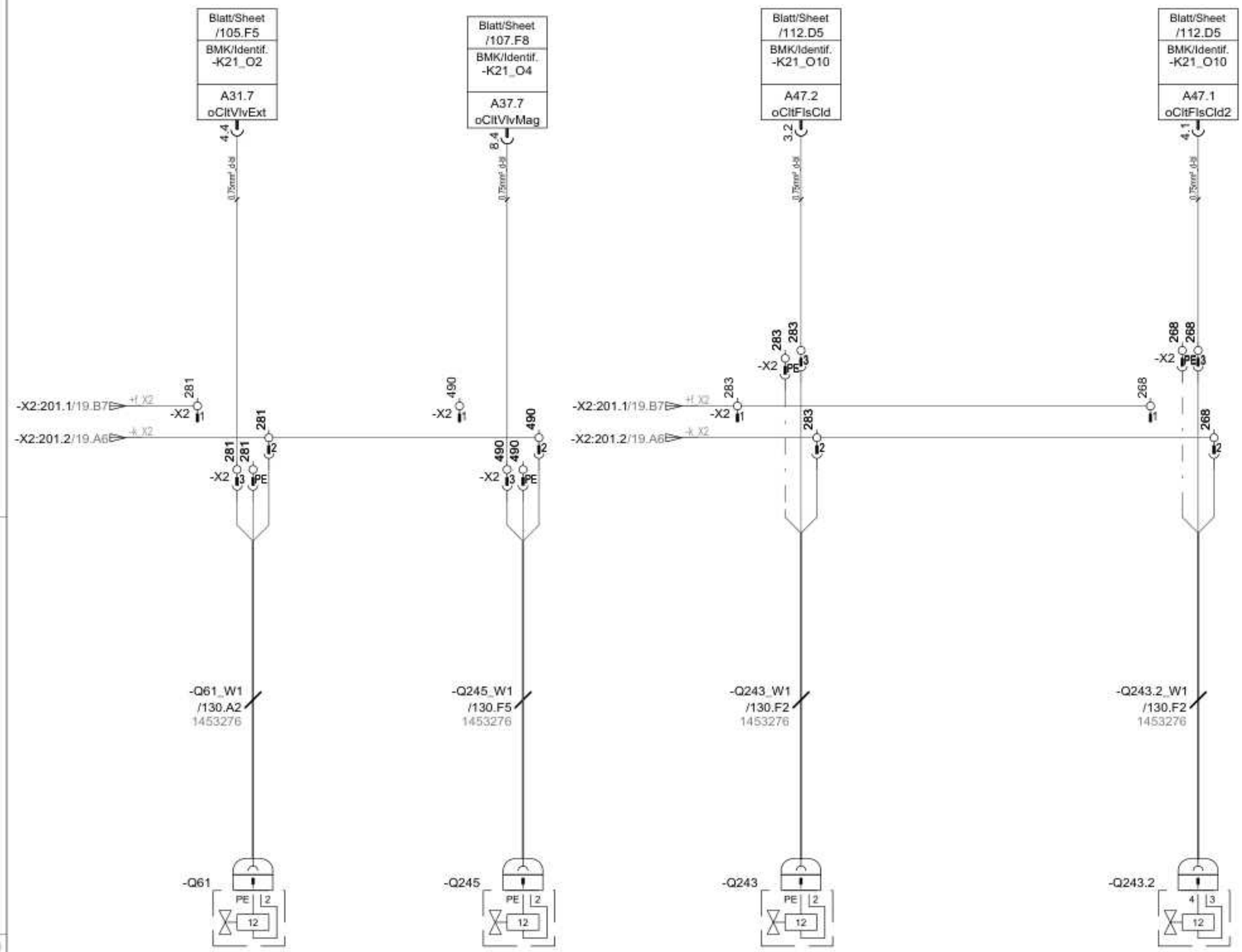
E3 series



Kuehlmittelventil, Werkzeugaussenkuehlung
Coolant valve, external tool cooling

Kuehlmittelventil, Werkzeugmagazinspuelung
Coolant valve, tool magazine rinsing

Kuehlmittelventil, Vorrichtungsspuelung
Coolant valve, device rinsing

Kuehlmittelventil, Vorrichtungsspuelung 2
Coolant valve, device rinsing 2

	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			
Ursprung Source		Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausfuehrung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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Benennung/Title: Kuehlmittelventile / Coolant valves
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status: FR	Blatt/Sheet: 57	
Masch.-Nr./Machine no.: 28656		

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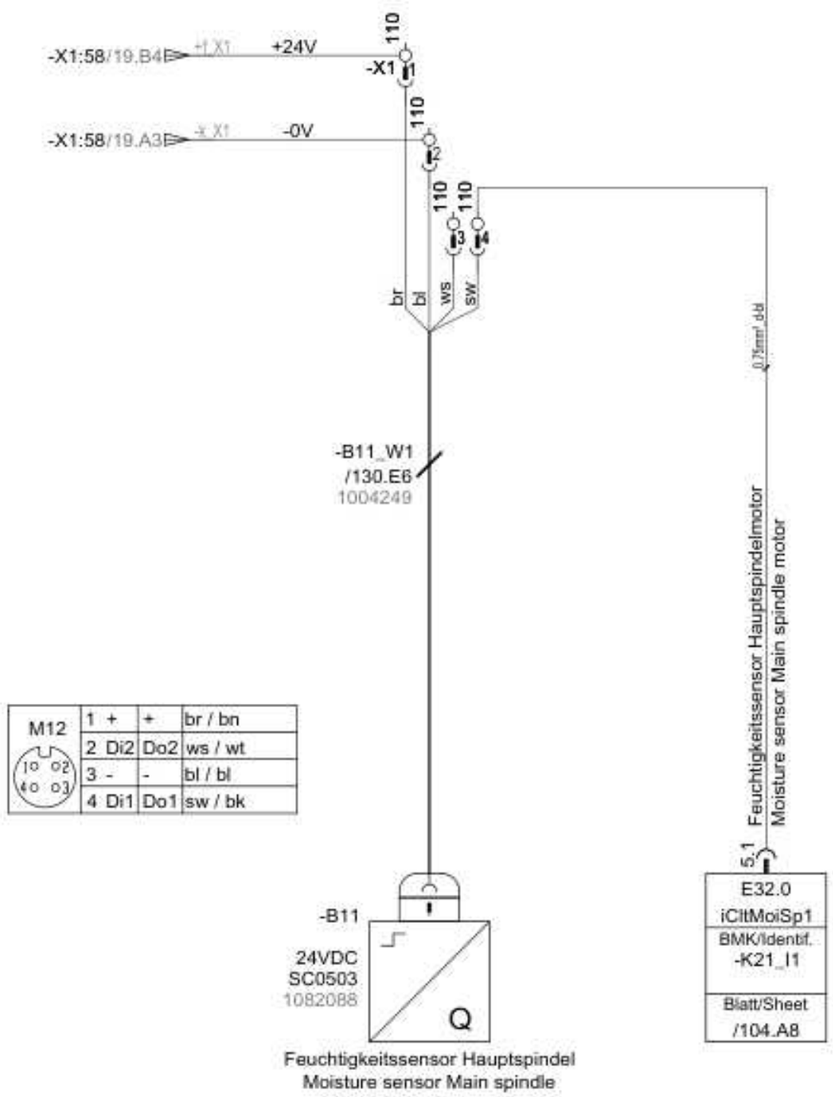

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E3 series

Änderungen / Modifications	Datum / Date	Name / Name					
d			Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
c			Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
b			NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
a			Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
			E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Ursprung Source	Auftrag / Order 259292	Maßstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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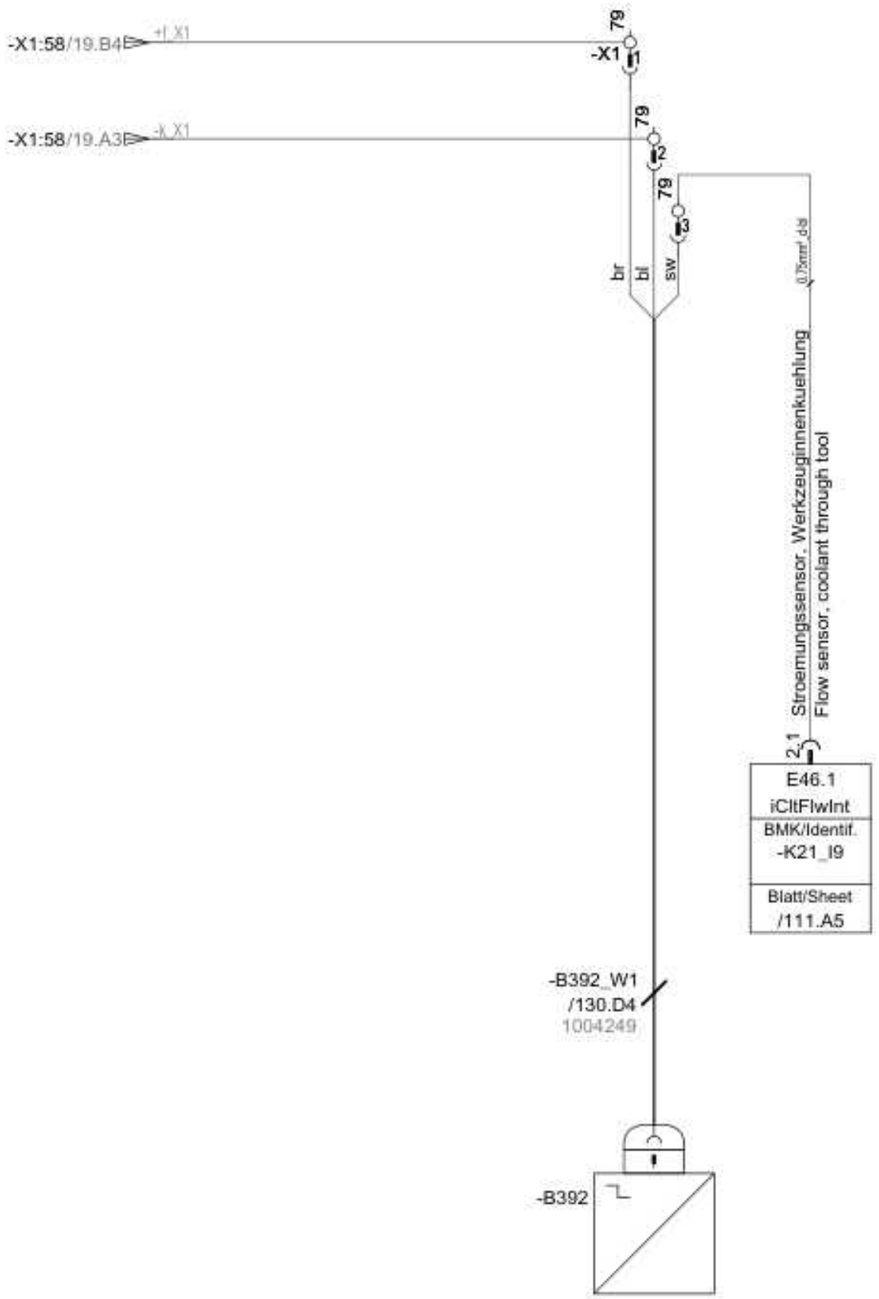
Benennung/Title: Feuchtigkeitssensor Hauptspindel
Moisture sensor Main spindle

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	58
Masch.-Nr./Machine no.		28656



Stroemungssensor, Werkzeuginnenkuehlung
Flow sensor, coolant through tool

M12			
	1 +	+	br / bn
	2 Di2	Do2	ws / wt
	3 -	-	bl / bl
	4 Di1	Do1	sw / bk
	5 ⏚	⏚	gn-ge / gn-ye

series

Aenderungen / Modifications	Datum / Date	Name / Name				
d			Baureihe / Series 15.3 PickUp	CAD E3	Datum / Date	Name / Name
c			Ausfuehrung / Mach. type W	Gez./Drawn	30.07.2014	GRUBERB
b			NC-Typ / Type NC Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
a			Antriebe / Drives 400V/HVI	Freig./Approv.	11.11.2016	KEHM
Ursprung Source	Auftrag / Order 259292	Massstab / Scale	E/A-Module / I/O-Modules Inline modular	Aend.-Nr. / Modific. no.		500000172977
			Dokument Kunde / Document customer	Inv.-Nr. Kunde / Inv. no. customer		

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Benennung/Title
Stroemungssensor Kuehlmittel
Flow sensor Coolant
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	59
Masch.-Nr./Machine no.		28656

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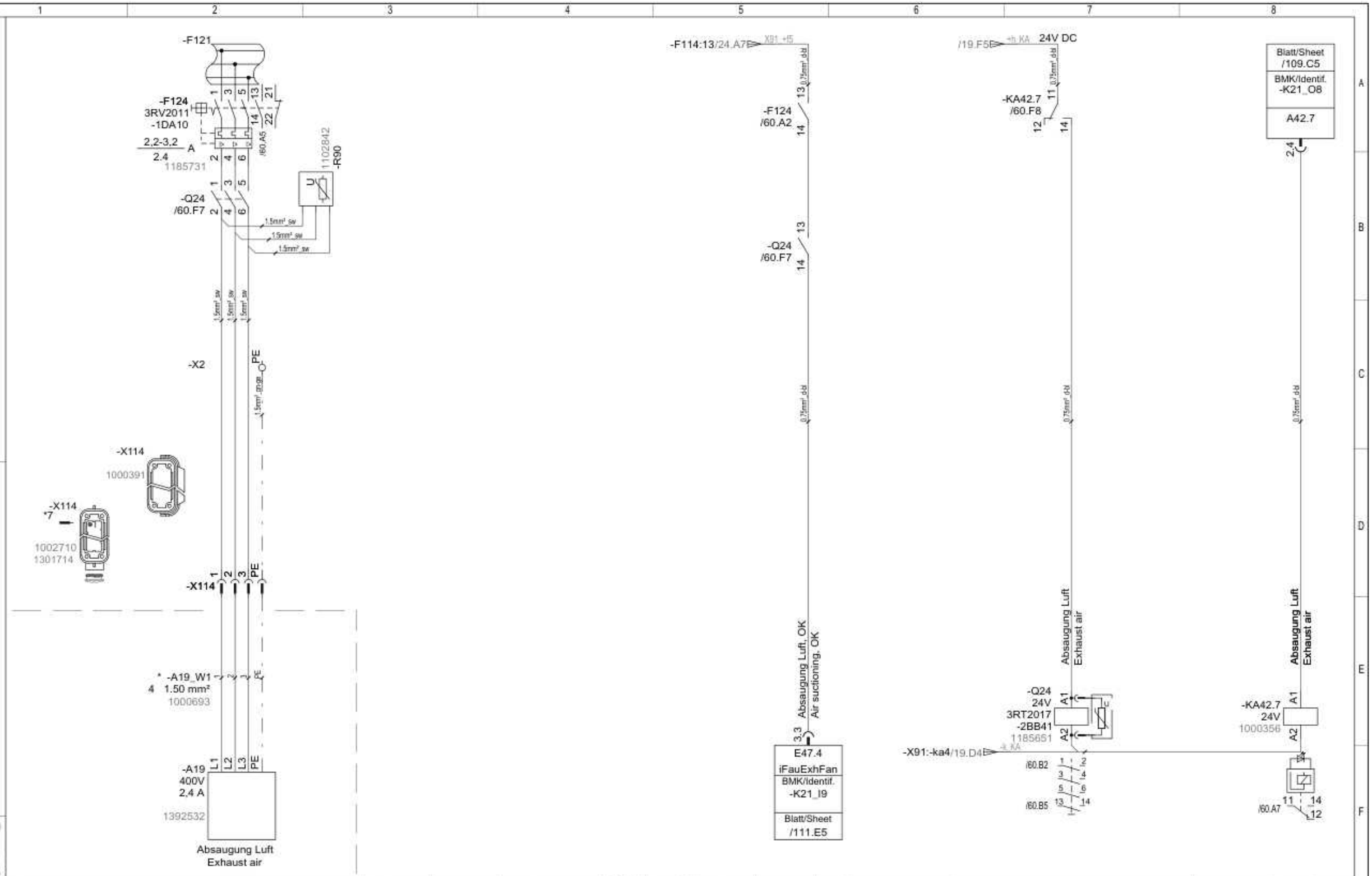

Änderungen / Modifications	Datum / Date	Name / Name					
d			Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
c			Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
b			NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
a			Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
Ursprung Source	Auftrag / Order 259292	Maßstab / Scale	E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
			Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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Benennung/Title: Absaugung Luft / Exhaust air
Ers.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	60
Masch.-Nr./Machine no.		28656

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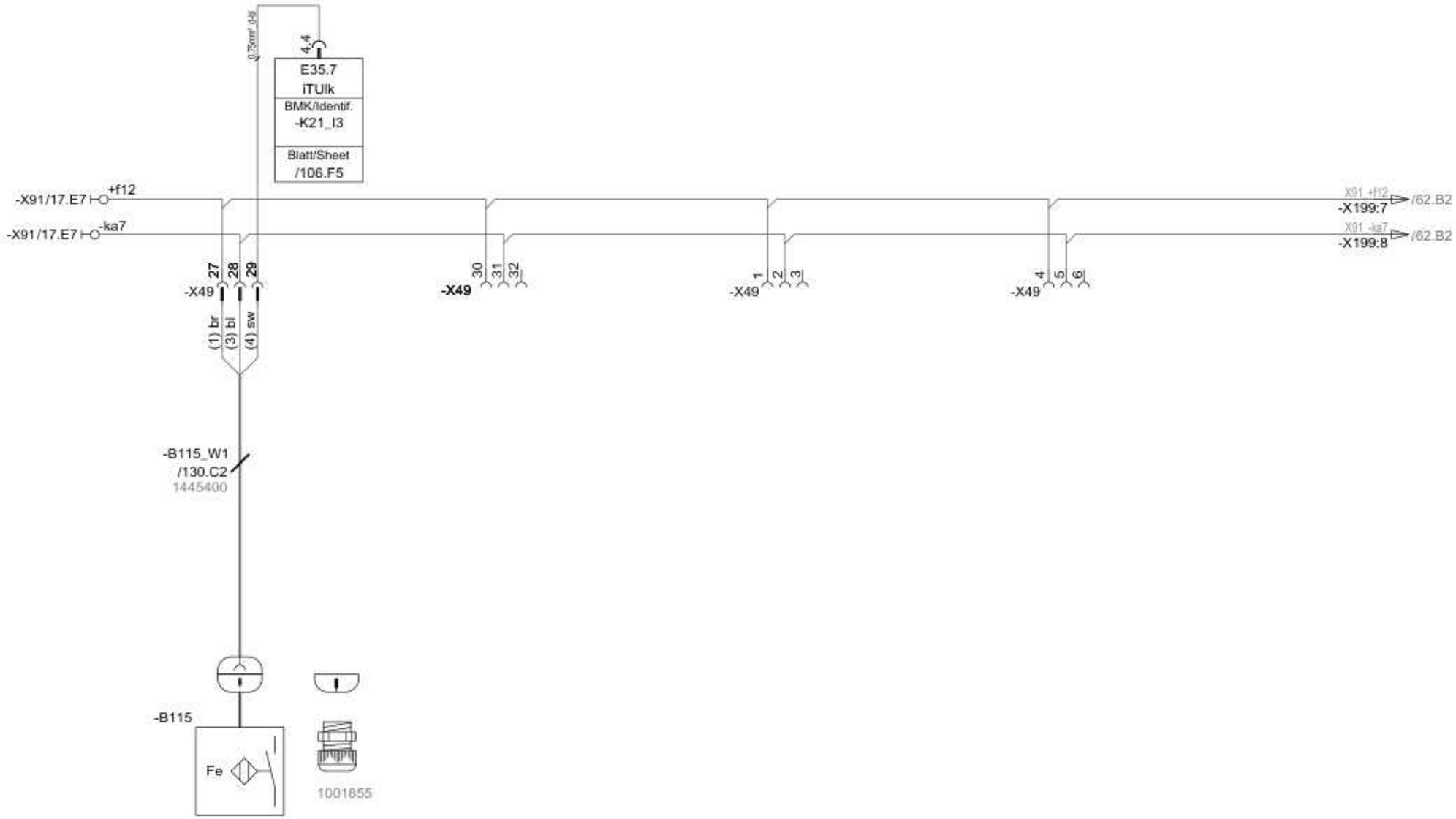

M12			
	1 +	+	br / bn
	2 Di2	Do2	ws / wt
	3 -	-	bl / bl
	4 Di1	Do1	sw / bk
	5 ⏚	⏚	gn-ge / gn-ye

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	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			

Ursprung Source

Auftrag / Order 259292 | Maesstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausfuehrung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
EA-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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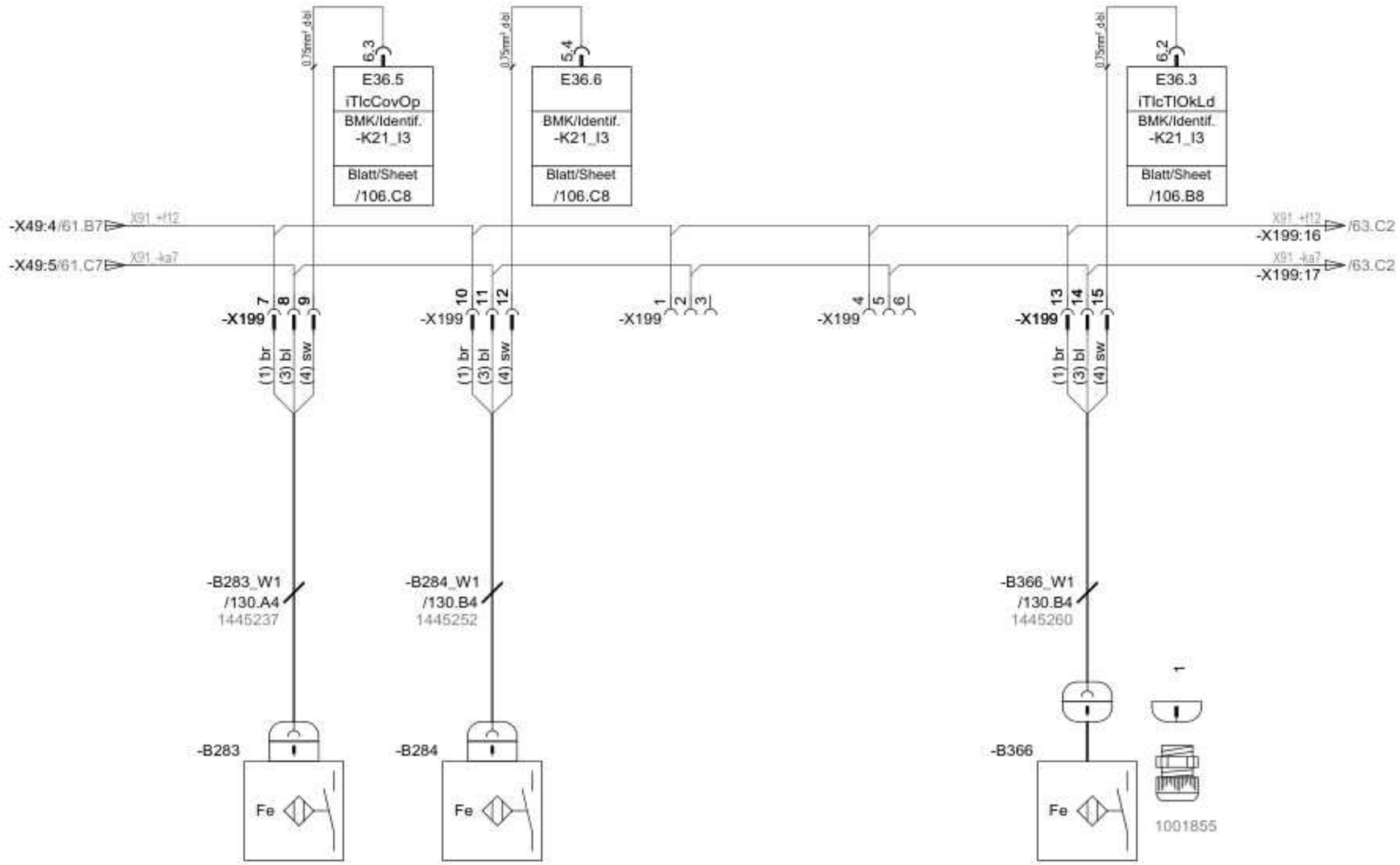
Benennung/Title
Werkzeugwechsler Ueberwachung
Tool changer Monitoring

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	61
Masch.-Nr./Machine no.		28656



Werkzeugwechslerabdeckung, geschlossen
Tool changer cover, closed

Werkzeugwechslerabdeckung, offen
Tool changer cover, opened

Werkzeug korrekt eingelegt
Tool correctly inserted

M12			
	1 +	+	br / bn
	2 Di2	Do2	ws / wt
	3 -	-	bl / bl
	4 Di1	Do1	sw / bk
	5 ⏚	⏚	gn-ge / gn-ye

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Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Maesstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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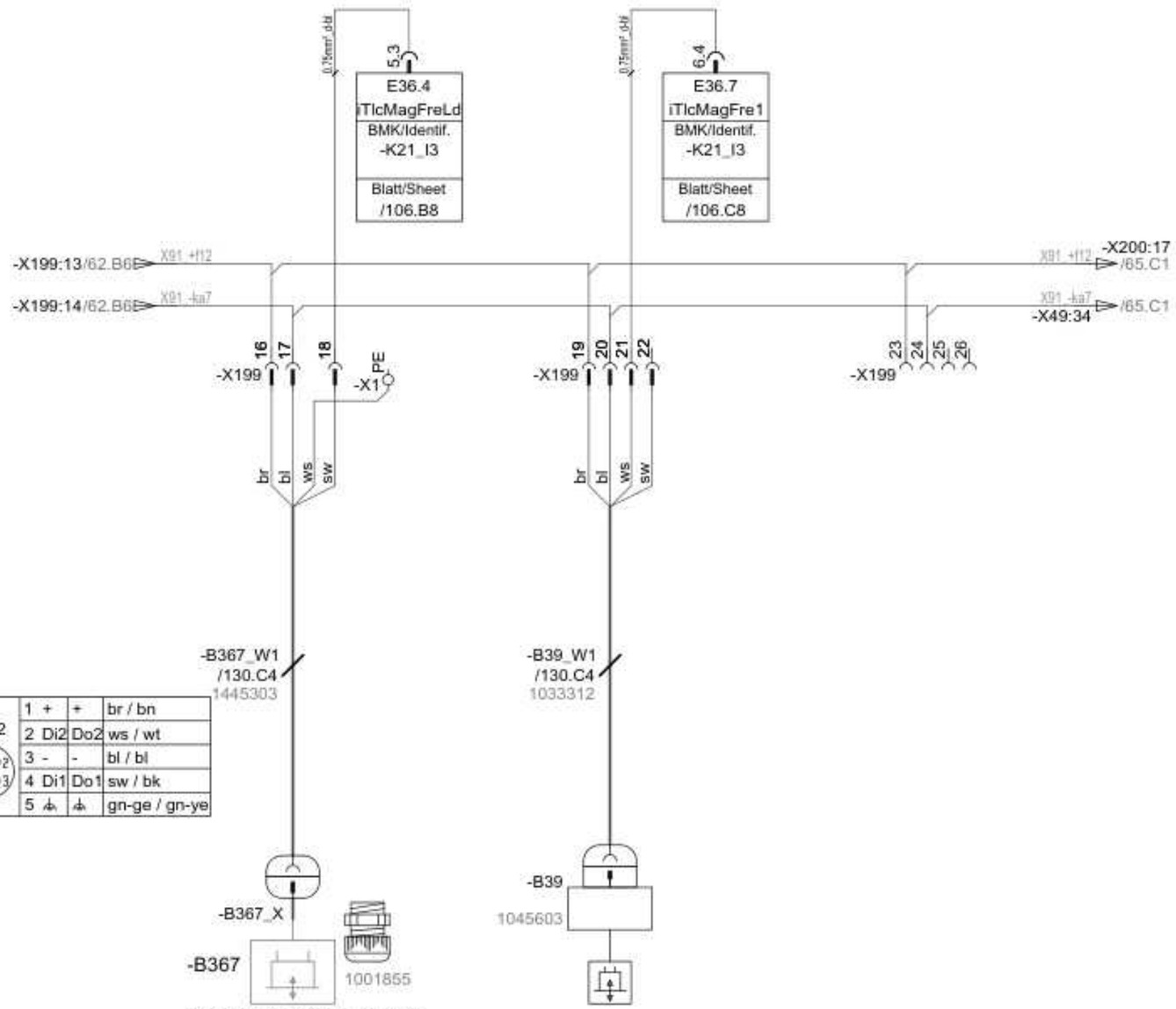
CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Werkzeugwechsler Ueberwachung
Tool changer Monitoring
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	62
Masch.-Nr./Machine no.		28656



Aenderungen / Modifications	Datum / Date	Name / Name				
d			Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
c			Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
b			NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
a			Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
			E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Ursprung Source	Auftrag / Order 259292	Massstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Werkzeugwechsler Ueberwachung
Tool changer Monitoring

Ers.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	63
Masch.-Nr./Machine no.		28656

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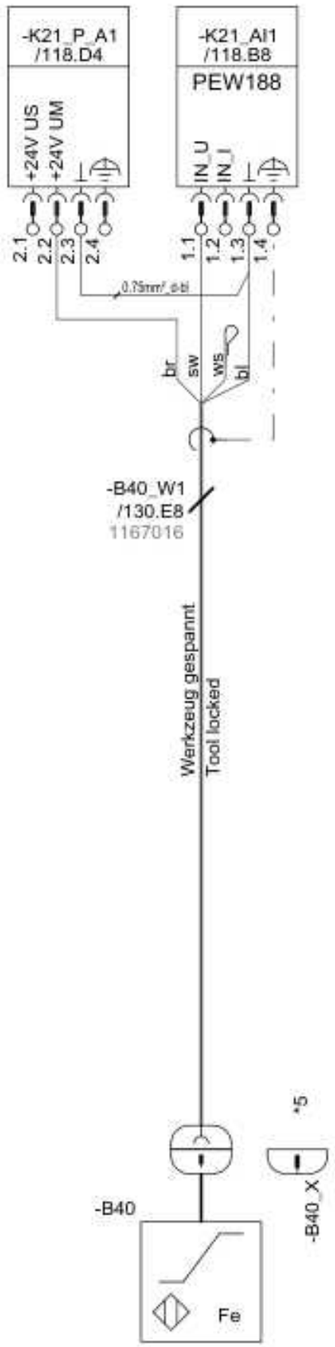
Motor	Art	Sensor	4 Pol.	Phönix Klemme
Kessler SIE FAN	Spannung	br +	Pin 1	br + = 2.2
			Pin 2	ws = 1.3
		bl -	Pin 3	bl - = 1.3
		sw / WZ gespan.	Pin 4	sw / WZ gespan. = 1.1
	Strom	24V +	Pin 1	br + = 2.2
		WZ gespan.	Pin 2	ws = 1.2
		0V -	Pin 3	bl - = 1.3
			Pin 4	sw = 1.3

1	+	+	br / bn
2	Di2	Do2	ws / wt
3	-	-	bl / bl
4	Di1	Do1	sw / bk
5	⏚	⏚	gn-ge / gn-ye



Werkzeug gespannt
Tool locked

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E3 series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mech. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aenr.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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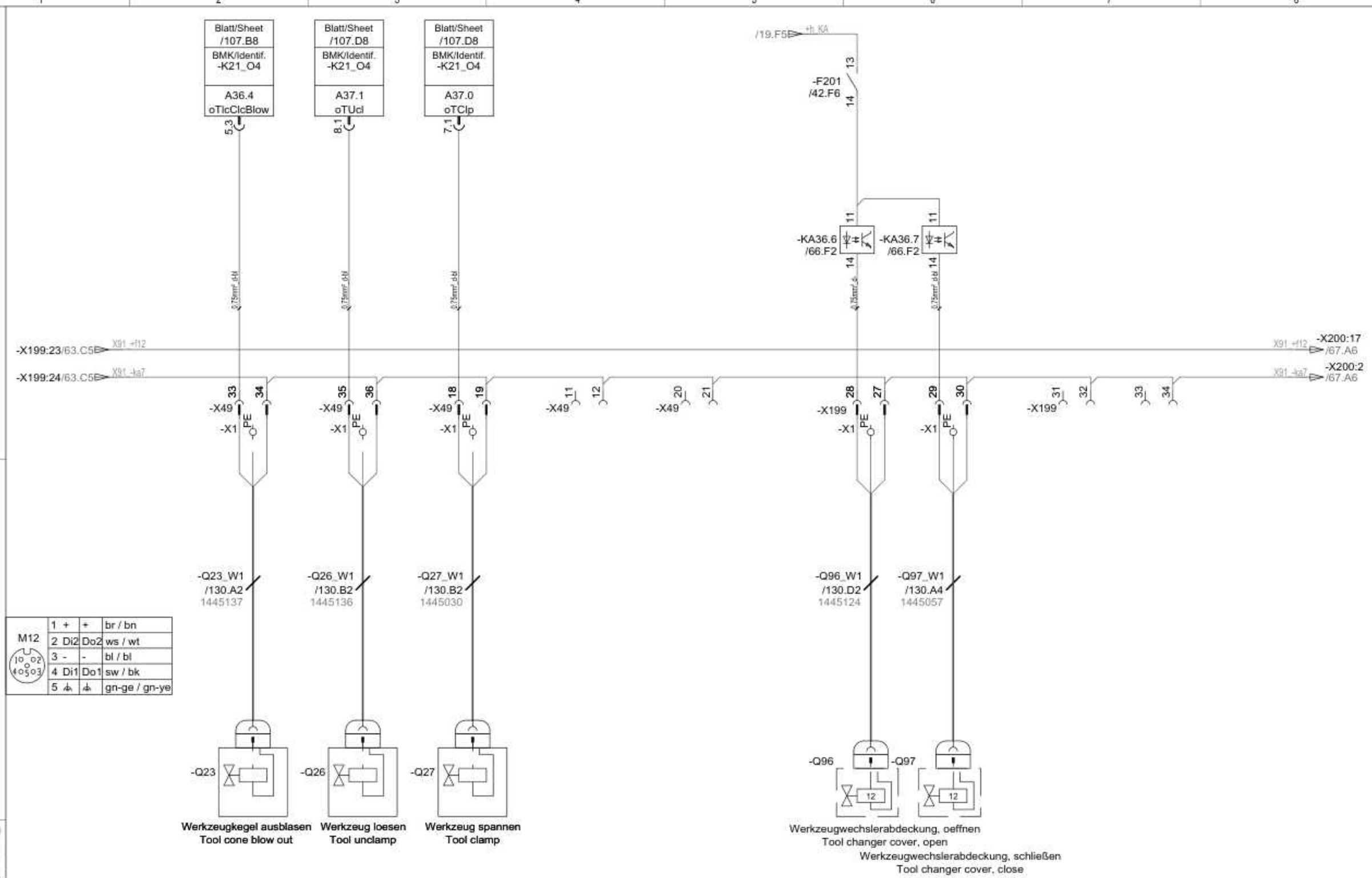
Benennung/Title
Analog-Schaltgeraet
Analog switching relay
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	64
Masch.-Nr./Machine no.		28656



M12			
	1 +	+	br / bn
	2 Di2	Do2	ws / wt
	3 -	-	bl / bl
	4 Di1	Do1	sw / bk
	5 ⏚	⏚	gn-ge / gn-ye

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E3 series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausführung / Mech. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
EA-Module / I/O-Modules	Inline modular	Aenr.-Nr. / Modific. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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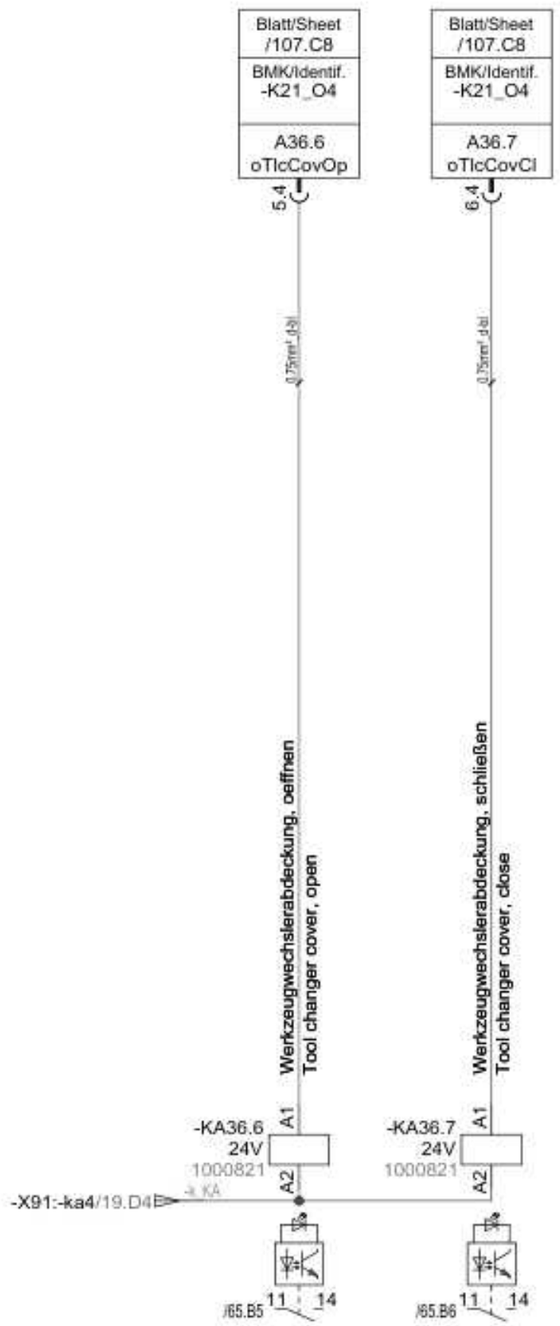
Benennung/Title
Werkzeugwechsler Ventile
Tool changer Valves
Erg.-Benennung/Additional title

Dokument Document	Teil-Dok. Doc.-part	Version Version
3210487	000	01
Status/Status FR	Blatt/Sheet	65
Masch.-Nr./Machine no.		28656



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Änderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Maßstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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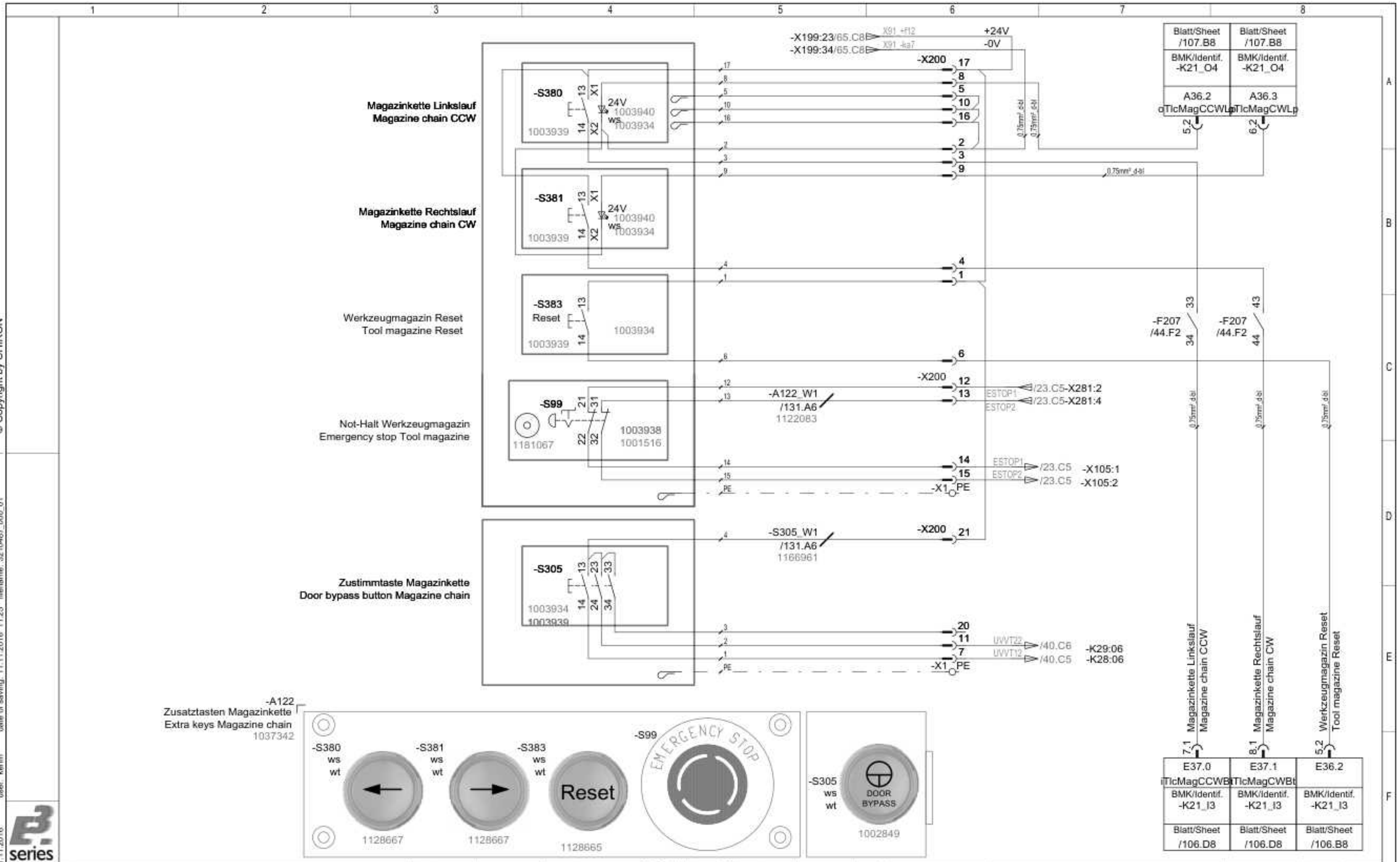
CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title: Werkzeugwechsler Ventile
Tool changer Valves
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status: FR	Blatt/Sheet	66
Masch.-Nr./Machine no.		28656



Änderungen / Modifications	Datum / Date	Name / Name	Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
d			Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
c			NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
b			Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
a			E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Ursprung Source	Auftrag / Order 259292	Maßstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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Benennung/Title: Zusatztasten Magazinkette
Extra keys Magazine chain
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	67
Masch.-Nr./Machine no.		28656

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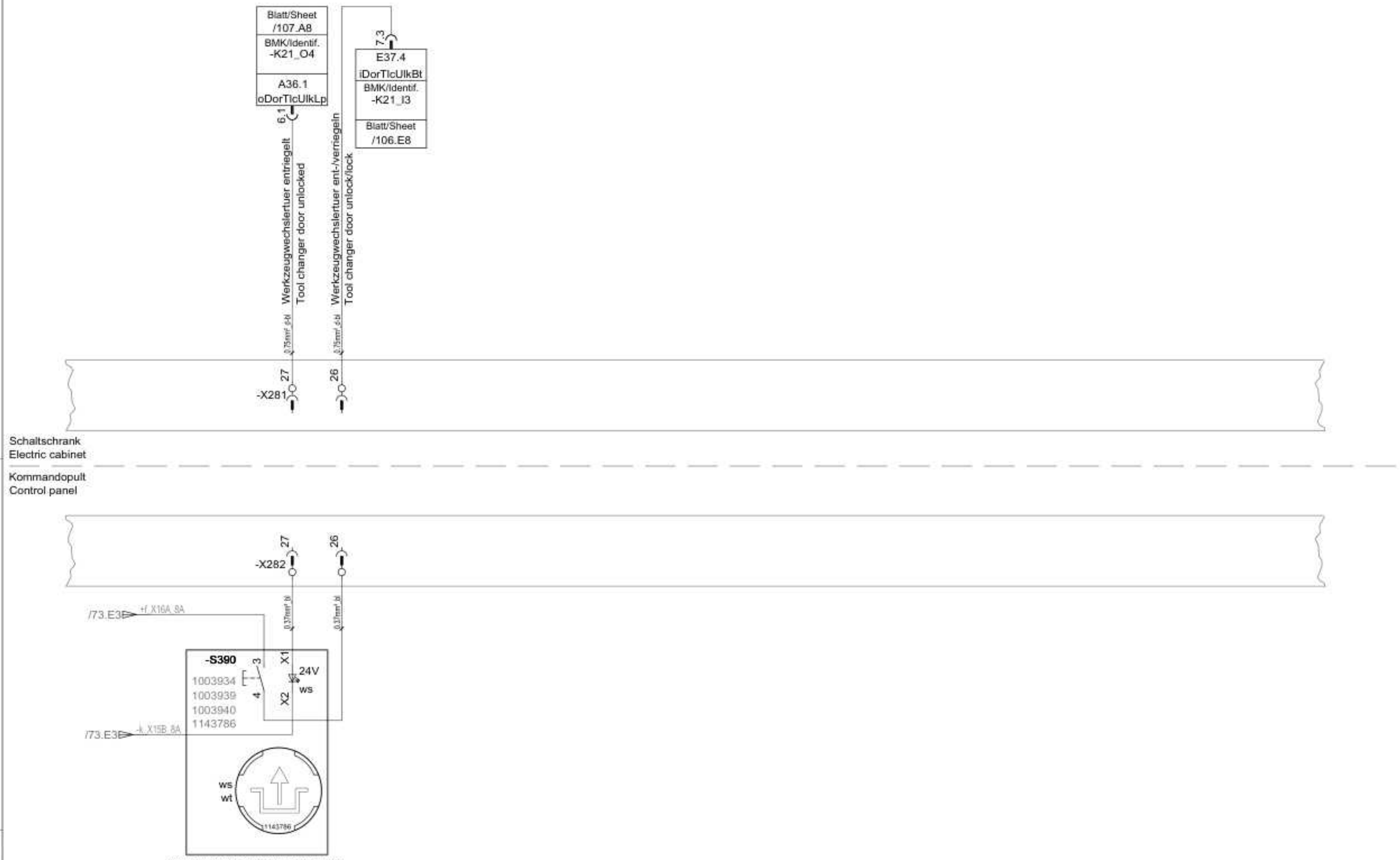
E3 series



Änderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Maßstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aenr.-Nr. / Modific. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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Benennung/Title
Zusatztasten Werkzeugwechslertuer
Extra keys Tool changer door
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	68
Masch.-Nr./Machine no.		28656

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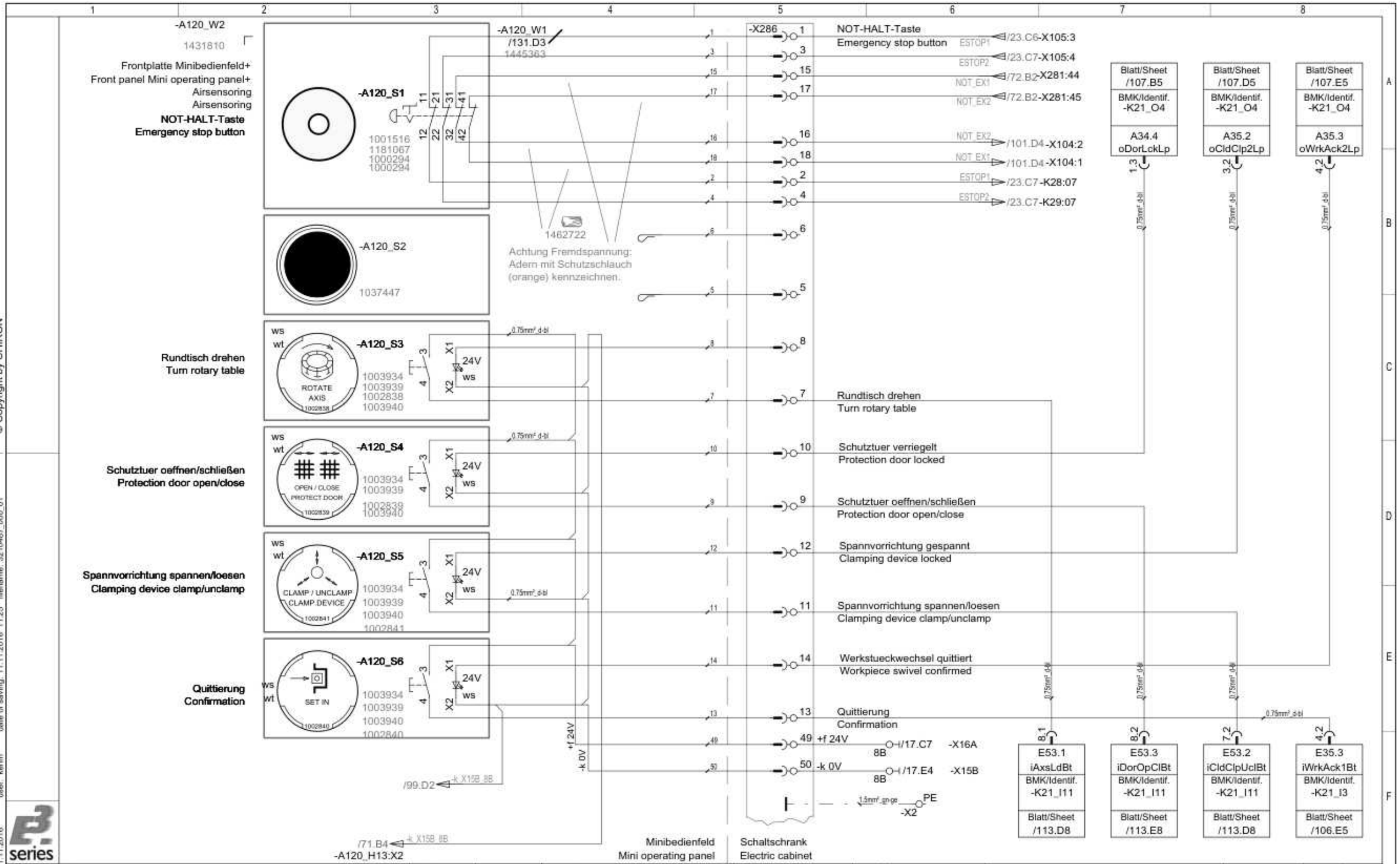
series



Aenderungen / Modifications	Datum / Date	Name / Name	Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
d			Ausführung / Mech. type	W	Gez./Drawn	30.07.2014	GRUBERB
c			NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
b			Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
a			E/A-Module / I/O-Modules	Inline modular	Aenr.-Nr. / Modific. no.		500000172977
Ursprung Source	Auftrag / Order 259292	Massstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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Benennung/Title: Quittierung W / Confirmation W
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	69
Masch.-Nr./Machine no.		28656

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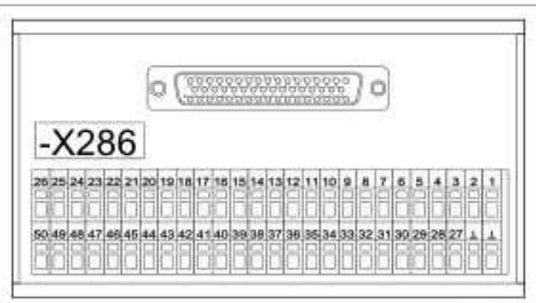
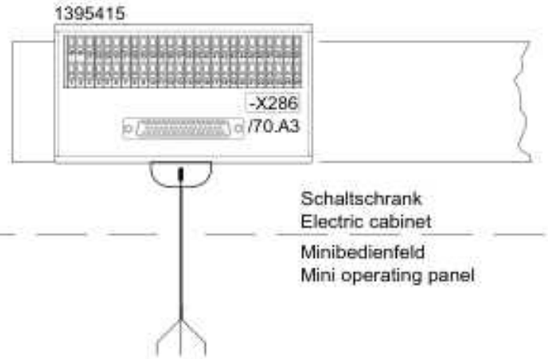


1395415

PIN	QVW	PIN	QVW	PIN	QVW	PIN	QVW	PIN	QVW
1	/69.A5	11	/69.E5	21		31		41	/71.E5
2	/69.B5	12	/69.D5	22		32		42	/99.C2
3	/69.A5	13	/69.E5	23		33		43	/99.C2
4	/69.B5	14	/69.E5	24		34		44	/99.C3
5	/69.B5	15	/69.A5	25		35		45	
6	/69.B5	16	/69.A5	26		36		46	
7	/69.C5	17	/69.A5	27		37		47	
8	/69.C5	18	/69.B5	28		38	/71.B5	48	
9	/69.D5	19		29		39	/71.C5	49	/69.F5
10	/69.D5	20		30		40	/71.D5	50	/69.F5
						⊥		⊥	



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	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			

Ursprung Source

Auftrag / Order 259292

Maesstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausfuehrung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
EA-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977

Dokument Kunde / Document customer

Inv.-Nr. Kunde / Inv. no. customer

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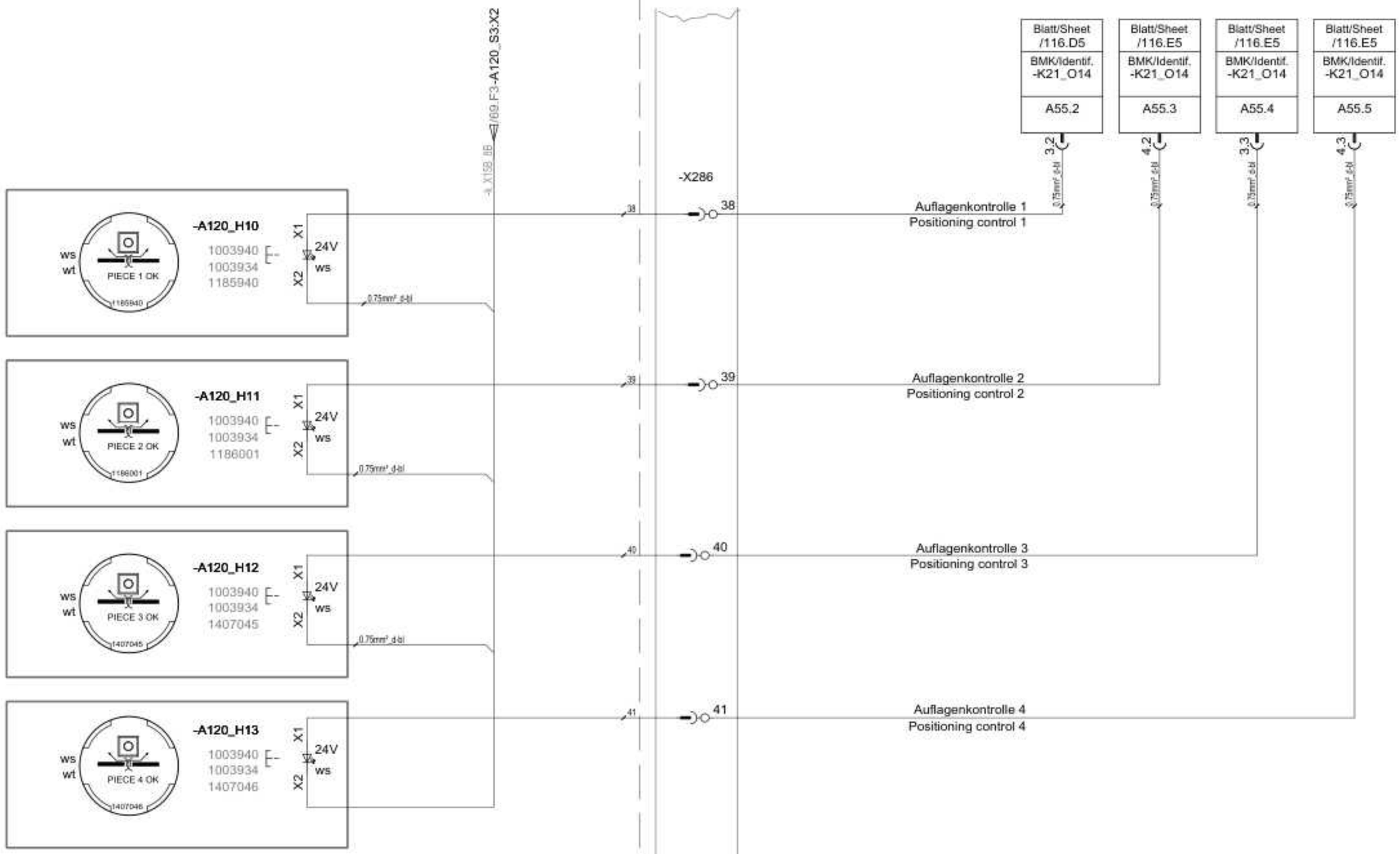
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Quittierung W
Confirmation W

Ers.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	70
Masch.-Nr./Machine no.		28656



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E3 series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
EA-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modifs. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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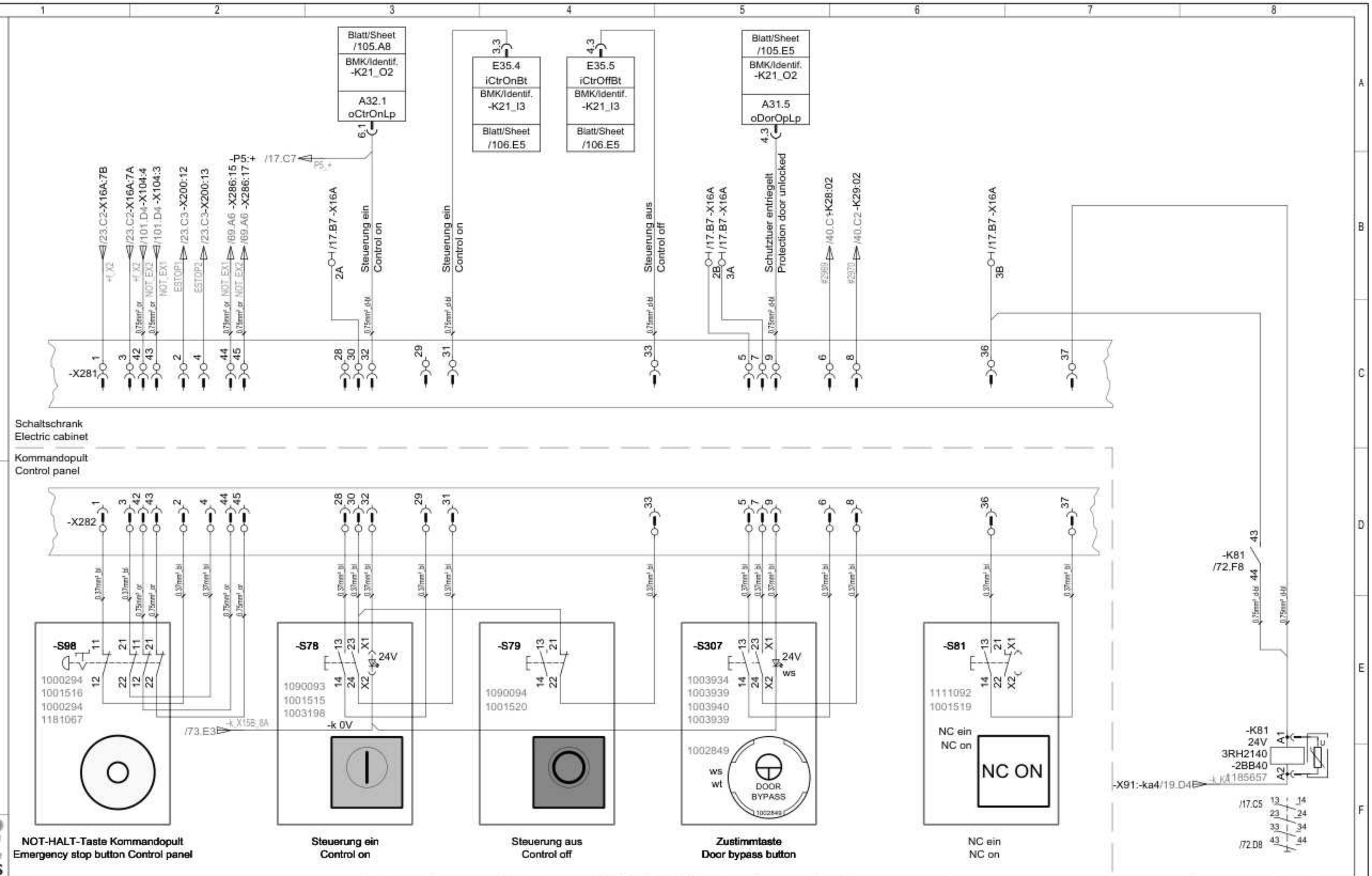
Benennung/Title
Werkstueckeinlegekontrolle W D12
Workpiece position control W D12

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	71
Masch.-Nr./Machine no.		28656



Aenderungen / Modifications	Datum / Date	Name / Name	Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
d			Ausfuehrung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
c			NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
b			Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
a			E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			5000001729 77
Ursprung Source	Auftrag / Order 259292	Massstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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Benennung/Title
Maschinensteuertafel Not-Halt Kommandopult
Maschinensteuertafel Not-Halt Control panel

Erg.-Benennung/Additional title

Dokument Document	Teil-Dok. Doc.-part	Version Version
3210487	000	01
Status/Status FR	Blatt/Sheet	72
Masch.-Nr./Machine no.		28656

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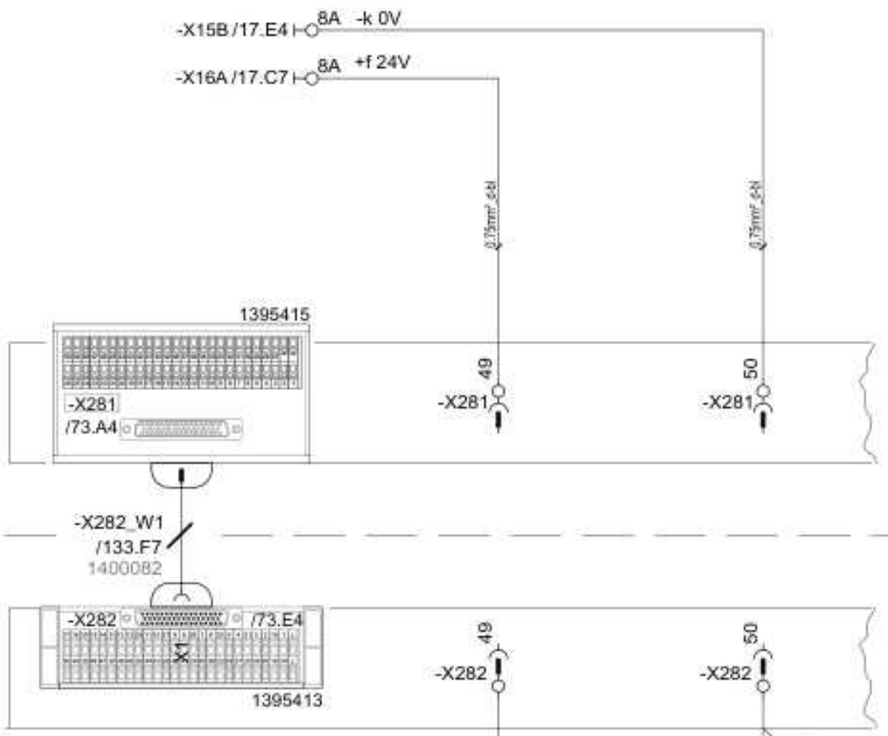
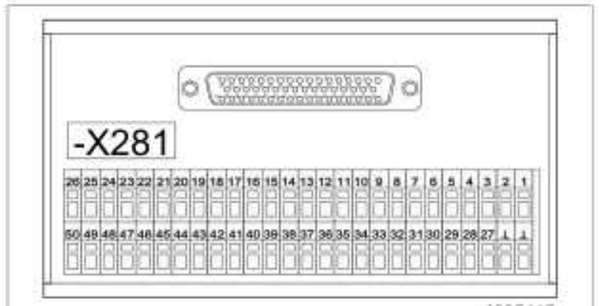
date of printing: 11.11.2016

E3 series



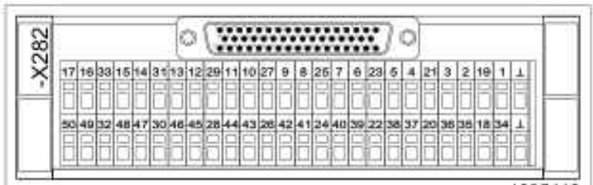


1395415

PIN	QVW	PIN	QVW	PIN	QVW	PIN	QVW	PIN	QVW
1	/72.C1	11	/75.C1	21	/76.C3	31	/72.C3	41	/77.C7
2	/72.C2	12	/75.C1	22	/76.C5	32	/72.C3	42	/72.C2
3	/72.C1	13	/75.C1	23		33	/72.C4	43	/72.C2
4	/72.C2	14	/75.C3	24		34		44	/72.C2
5	/72.C5	15	/75.C5	25		35		45	/72.C2
6	/72.C5	16	/75.C5	26	/68.C3	36	/72.C6	46	
7	/72.C5	17	/75.C5	27	/68.C2	37	/72.C7	47	
8	/72.C6	18	/76.C2	28	/72.C3	38	/77.C7	48	
9	/72.C5	19	/76.C3	29	/72.C3	39	/77.C7	49	/73.C2
10	/75.C2	20	/76.C2	30	/72.C3	40	/77.C7	50	/73.C3
						⊥		⊥	

Schaltschrank
Electric cabinet

Kommandopult
Control panel



1395413

PIN	QVW	PIN	QVW	PIN	QVW	PIN	QVW	PIN	QVW
1	/72.D1	11	/75.D1	21	/76.D3	31	/72.D3	41	/77.D7
2	/72.D2	12	/75.D1	22	/76.D5	32	/72.D3	42	/72.D2
3	/72.D1	13	/75.D1	23		33	/72.D4	43	/72.D2
4	/72.D2	14	/75.D3	24		34		44	/72.D2
5	/72.D5	15	/75.D5	25		35		45	/72.D2
6	/72.D5	16	/75.D5	26	/68.D3	36	/72.D6	46	
7	/72.D5	17	/75.D5	27	/68.D2	37	/72.D7	47	
8	/72.D6	18	/76.D3	28	/72.D3	38	/77.D7	48	
9	/72.D5	19	/76.D3	29	/72.D3	39	/77.D7	49	/73.D2
10	/75.D2	20	/76.D3	30	/72.D3	40	/77.D7	50	/73.D3

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	Aenderungen / Modifications	Datum / Date	Name / Name
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Ursprung Source | Auftrag / Order 259292 | Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977

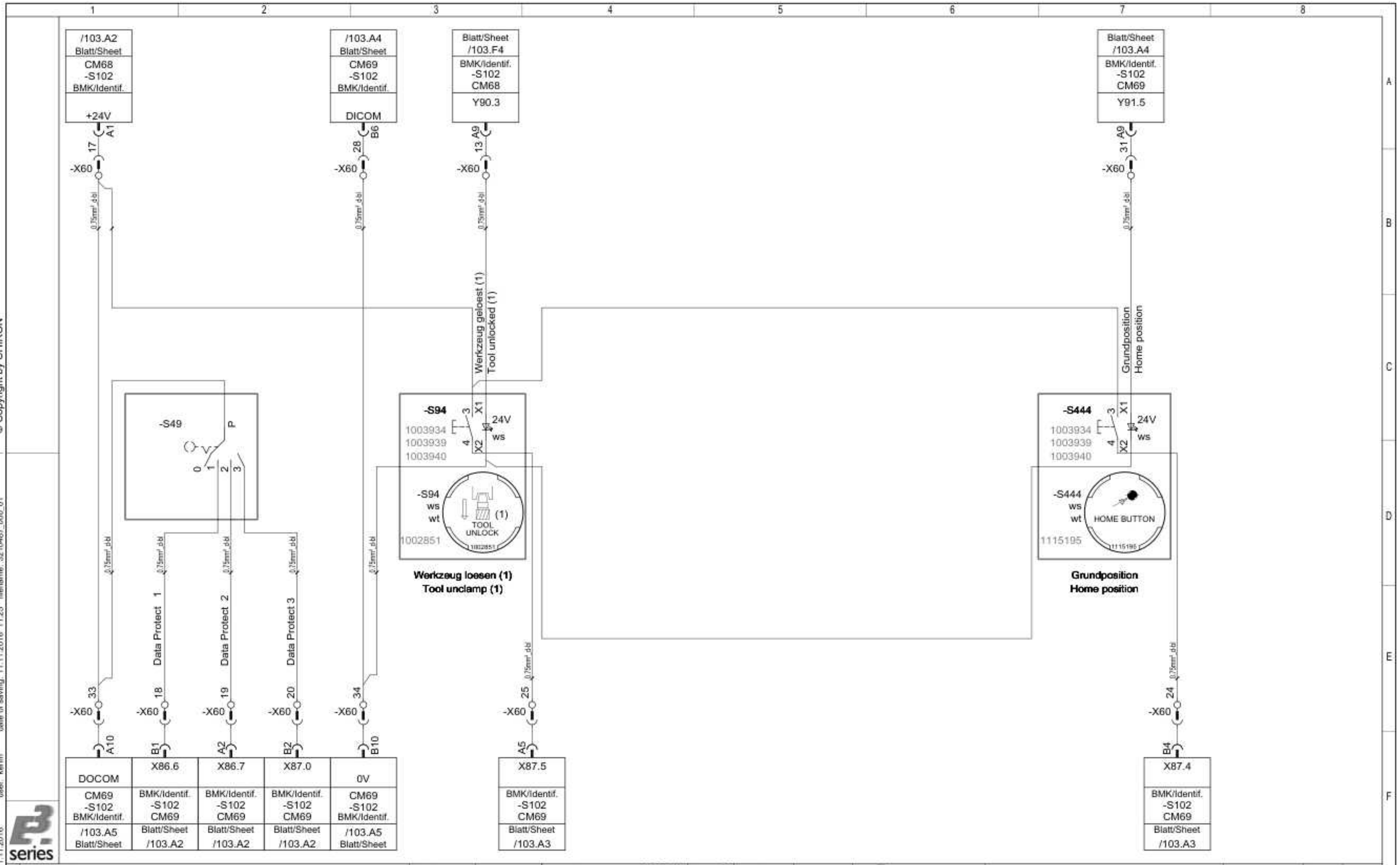
Dokument Kunde / Document customer | Inv.-Nr. Kunde / Inv. no. customer

chiron
CHIRON-WERKE GMBH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title: Maschinensteuertafel
Machine panel

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	73
Masch.-Nr./Machine no.		28656



Aenderungen / Modifications	Datum / Date	Name / Name	Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
d			Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
c			NC-Typ / Type NC	Fanuc 31I B5	Gepr./Check.		11.11.2016	KEHM
b			Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
a			E/A-Module / I/O-Modules	Inline modular	Aenderungs-Nr. / Modific. no.			500000172977
Ursprung Source	Auftrag / Order 259292	Massstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

chiron
CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title: Maschinensteuertafel
Machine panel
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	74
Masch.-Nr./Machine no.		28656

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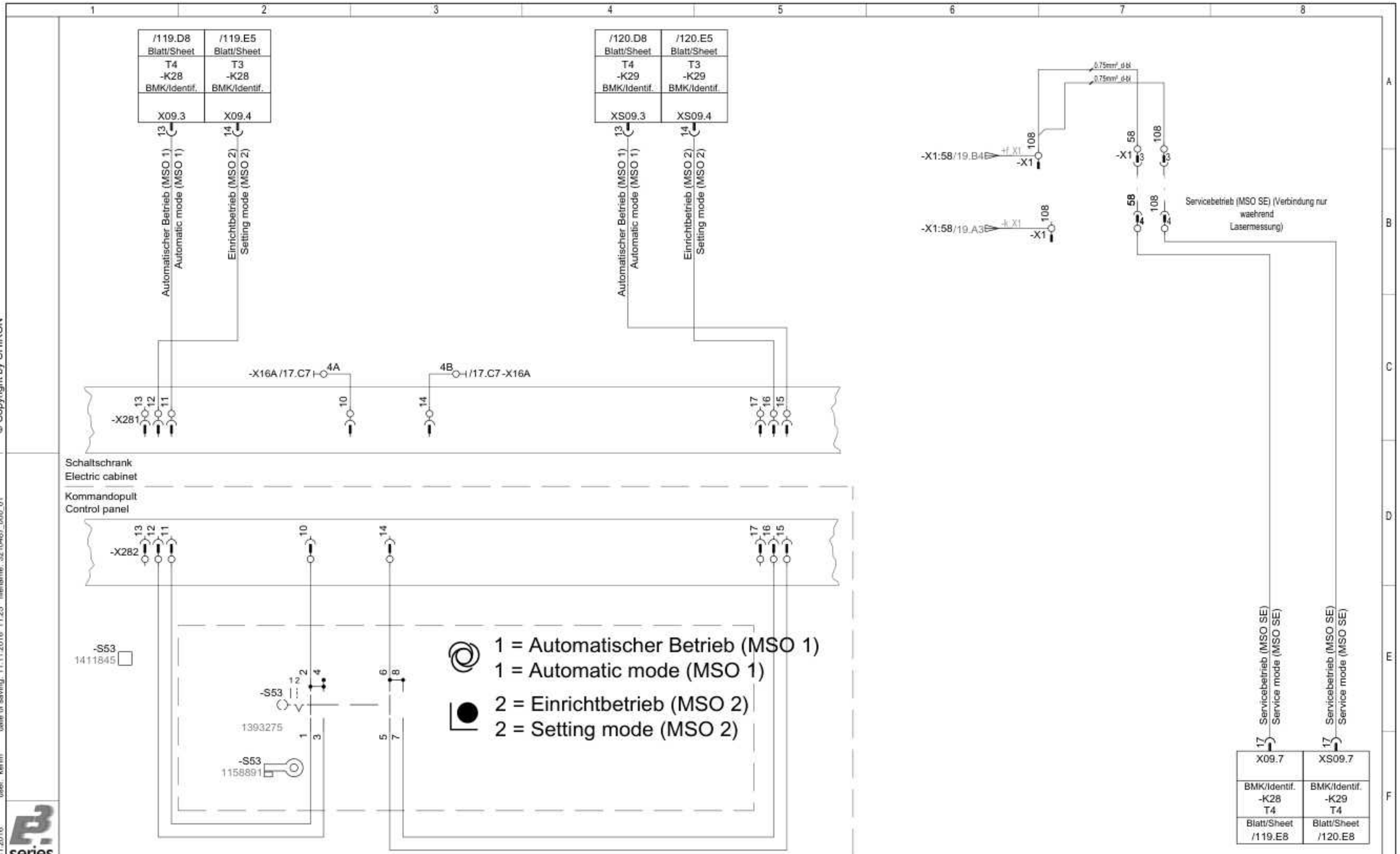

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Aenderungen / Modifications	Datum / Date	Name / Name
d		
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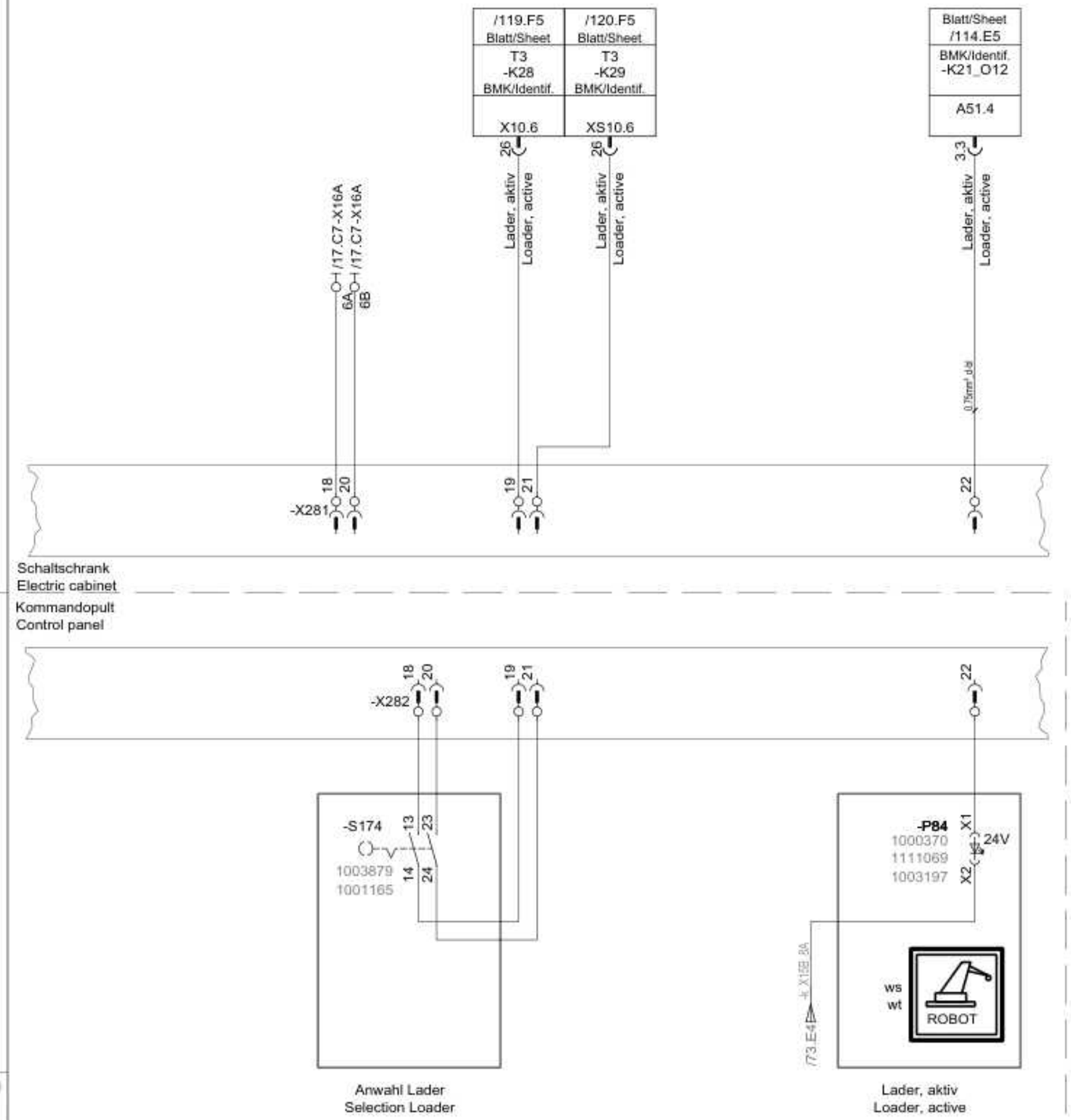
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modifs. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title: Betriebsarten-Wahlschalter
Operation modes-Selector switch
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	75
Masch.-Nr./Machine no.		28656



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	Aenderungen / Modifications	Datum / Date	Name / Name
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b			
a			

Ursprung Source | Auftrag / Order 259292 | Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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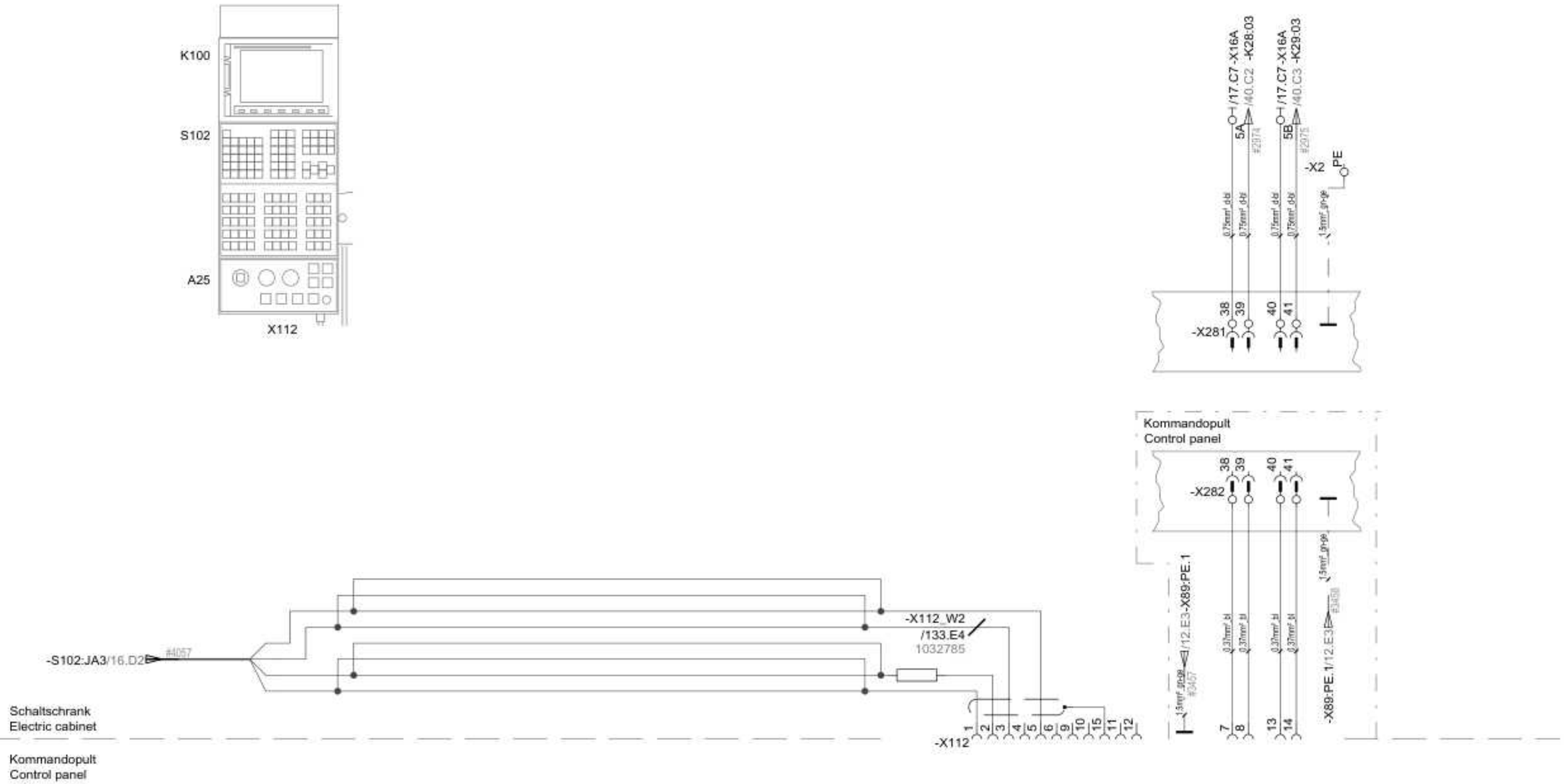
Benennung/Title
Lader, Anwahl + Ueberwachung
Loader, Selection + Monitoring
Erg.-Benennung/Additional title

Dokument / Document	3210487	Teil-Dok. / Doc.-part	000
Version / Version	01		
Status/Status	FR	Blatt/Sheet	76
Masch.-Nr./Machine no.	28656		



Aenderungen / Modifications	Datum / Date	Name / Name	Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
d			Ausführung / Mech. type	W	Gez./Drawn		30.07.2014	GRUBERB
c			NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
b			Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
a			E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Ursprung Source	Auftrag / Order 259292	Massstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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Benennung/Title
Handrad tragbar HBA-072783
Manual pulse generator portable HBA-072783
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	77
Masch.-Nr./Machine no.		28656

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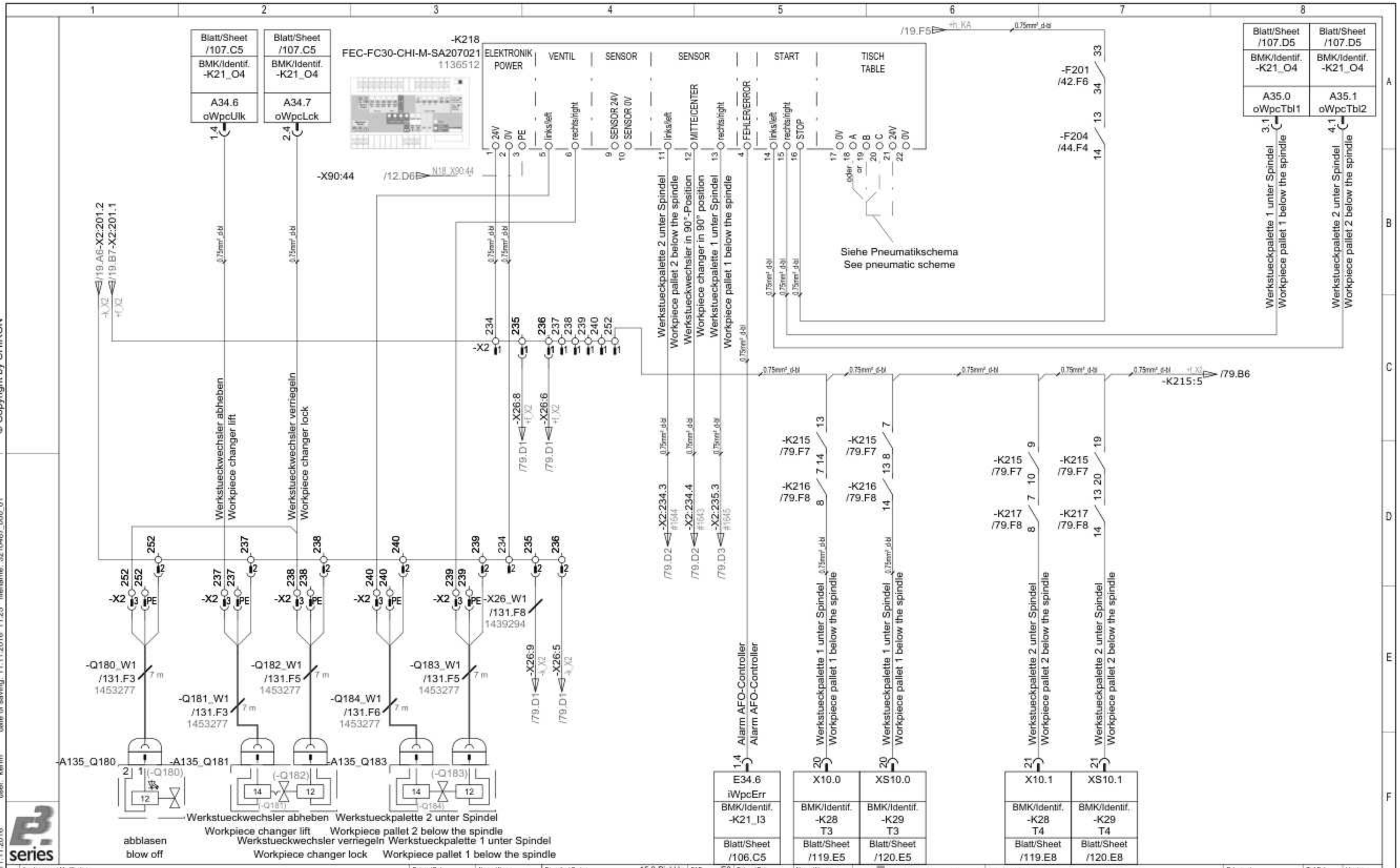

	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			

Ursprung Source

Auftrag / Order 259292

Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014
NC-Typ / Type NC	Fanuc 31I B5	Gepr./Check.	11.11.2016
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016
E/A-Module / I/O-Modules	Inline modular	Aenderungsnr. / Modific. no.	500000172977

Dokumente Kunde / Document customer

Inv.-Nr. Kunde / Inv. no. customer

Name / Name: GRUBERB, KEHM, KEHM

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CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung / Title
Werkstueckwechsler AFO-CONTROLLER
Workpiece changer AFO-CONTROLLER

Ergänzungsbenennung / Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01

Status / Status: FR
Blatt / Sheet: 78
Masch.-Nr. / Machine no.: 28656

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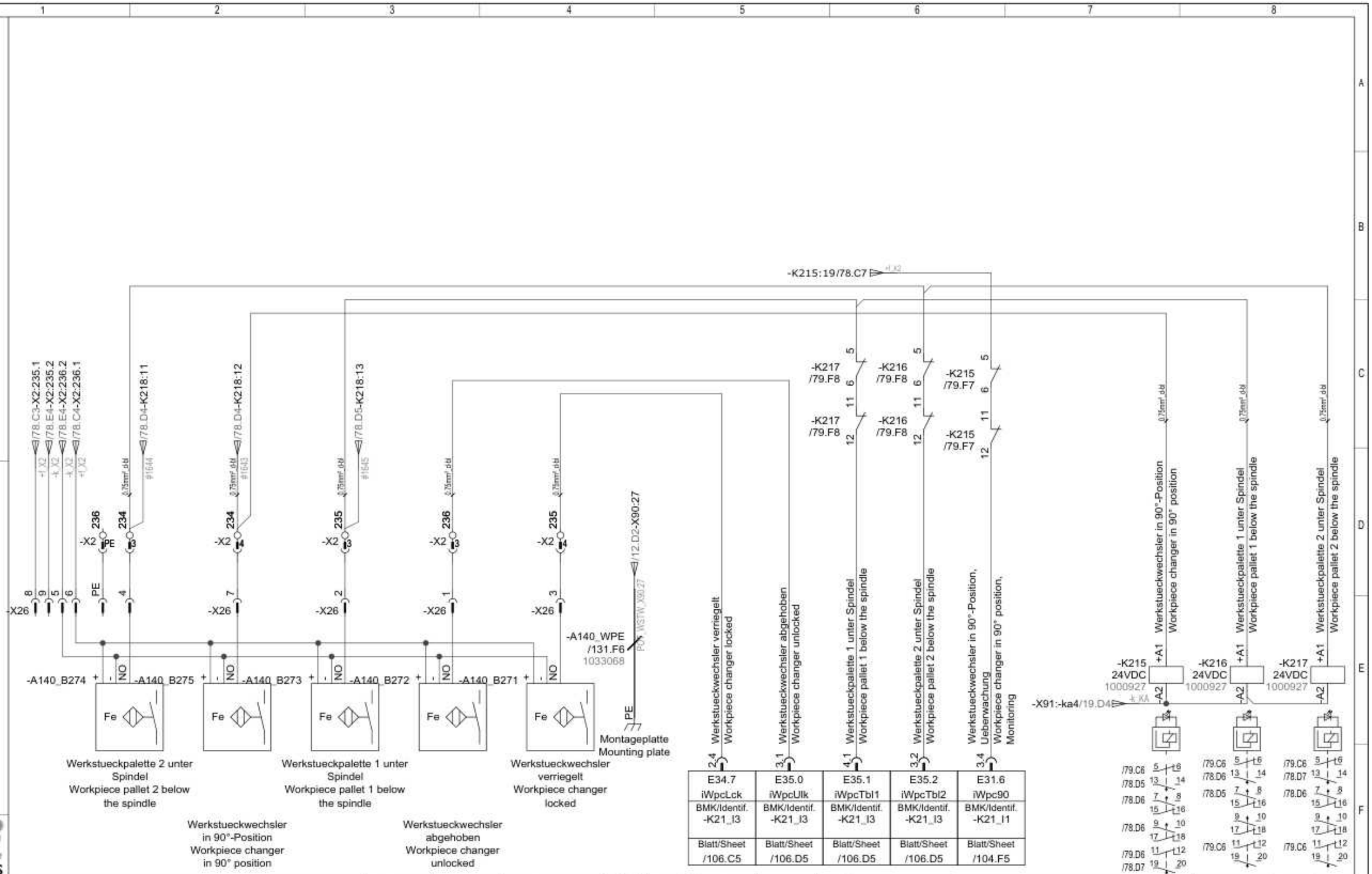
E3 series



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E3 series

	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			

Ursprung Source

Auftrag / Order 259292 | Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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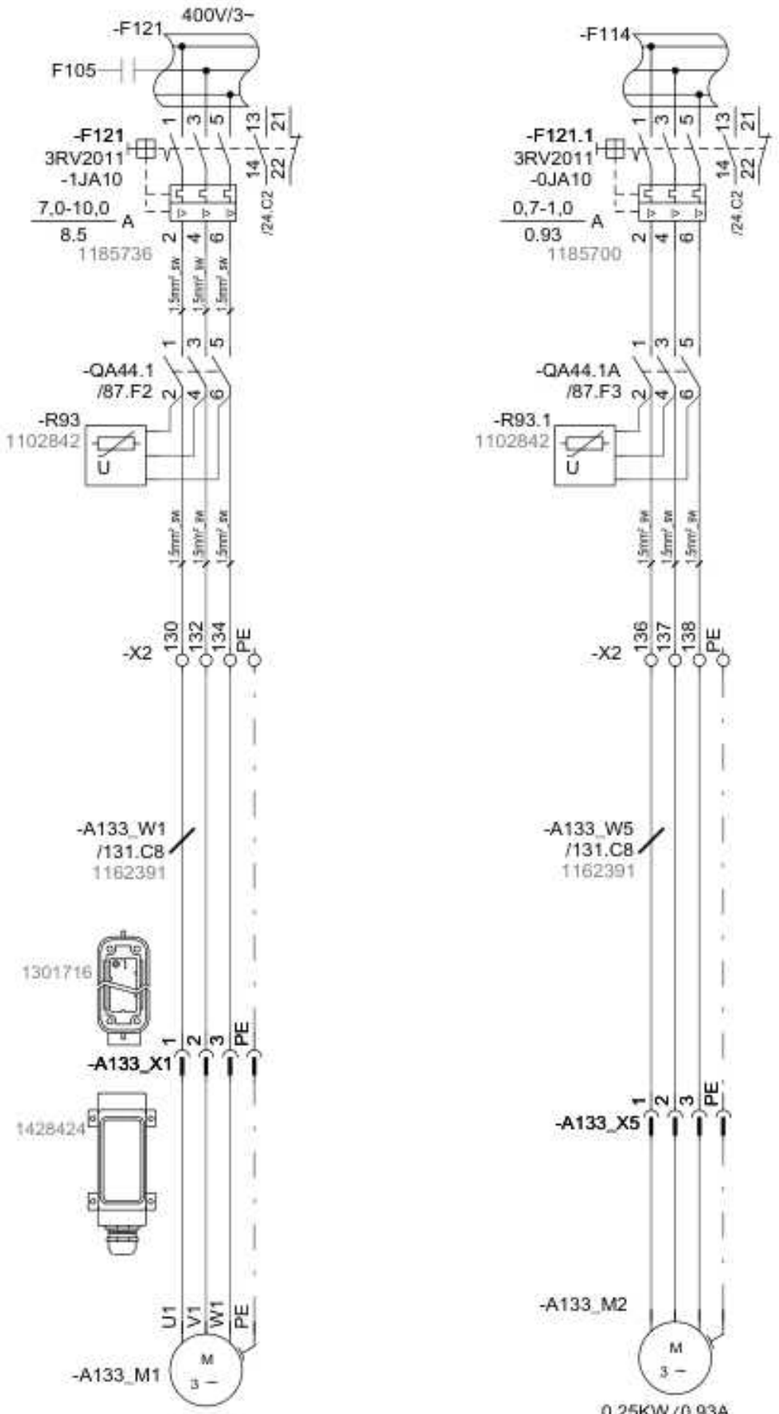
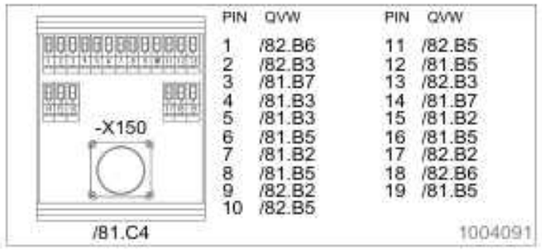
CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Ueberwachung Werkstueckwechsler
Monitoring Workpiece changer

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	79
Masch.-Nr./Machine no.		28656





PIN	QVW	PIN	QVW
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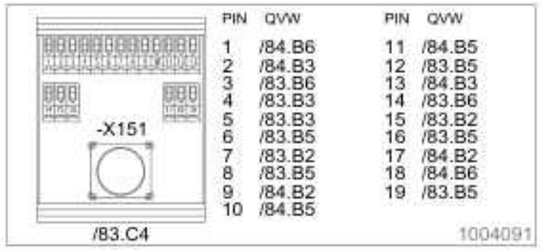
2	/82.B3	12	/81.B5
3	/81.B7	13	/82.B3
4	/81.B3	14	/81.B7
5	/81.B3	15	/81.B2
6	/81.B5	16	/81.B5
7	/81.B2	17	/82.B2
8	/81.B5	18	/82.B6
9	/82.B2	19	/81.B5
10	/82.B5		



PIN	QVW	PIN	QVW
1	/84.B6	11	/84.B5
2	/84.B3	12	/83.B5
3	/83.B6	13	/84.B3
4	/83.B3	14	/83.B6
5	/83.B3	15	/83.B2
6	/83.B5	16	/83.B5
7	/83.B2	17	/84.B2
8	/83.B5	18	/84.B6
9	/84.B2	19	/83.B5
10	/84.B5		

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series

	Aenderungen / Modifications	Datum / Date	Name / Name
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Ursprung Source

Auftrag / Order 259292

Maesstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausfuehrung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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CHIRON-WERKE GMBH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

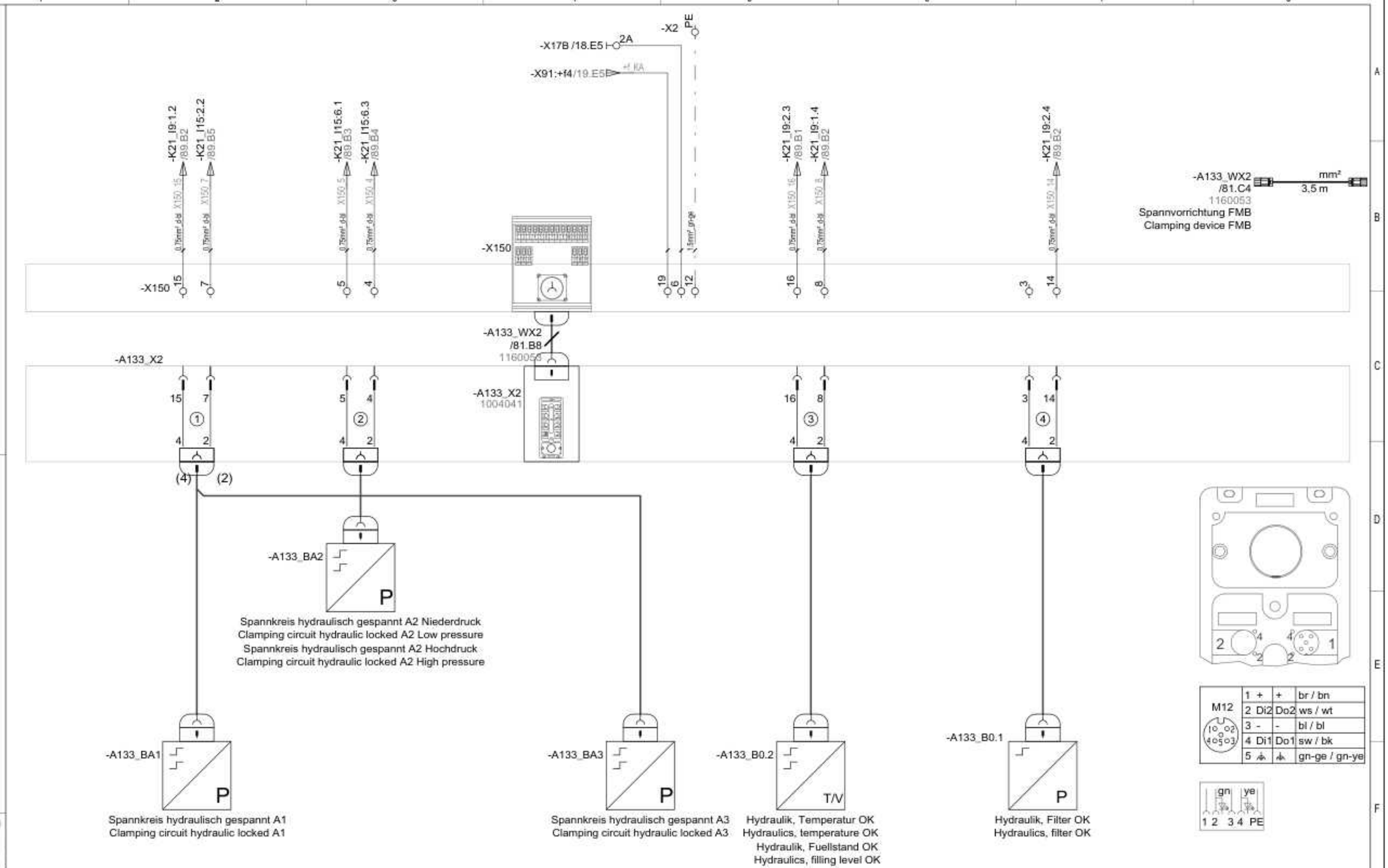
Benennung/Title
Hydraulik, Pumpe
Hydraulics, pump

Ers.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01

Status/Status FR Blatt/Sheet 80

Masch.-Nr./Machine no. 28656



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E3 series

Änderungen / Modifications	Datum / Date	Name / Name
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Ursprung Source	Auftrag / Order 259292	Maßstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Geprüft/Approv.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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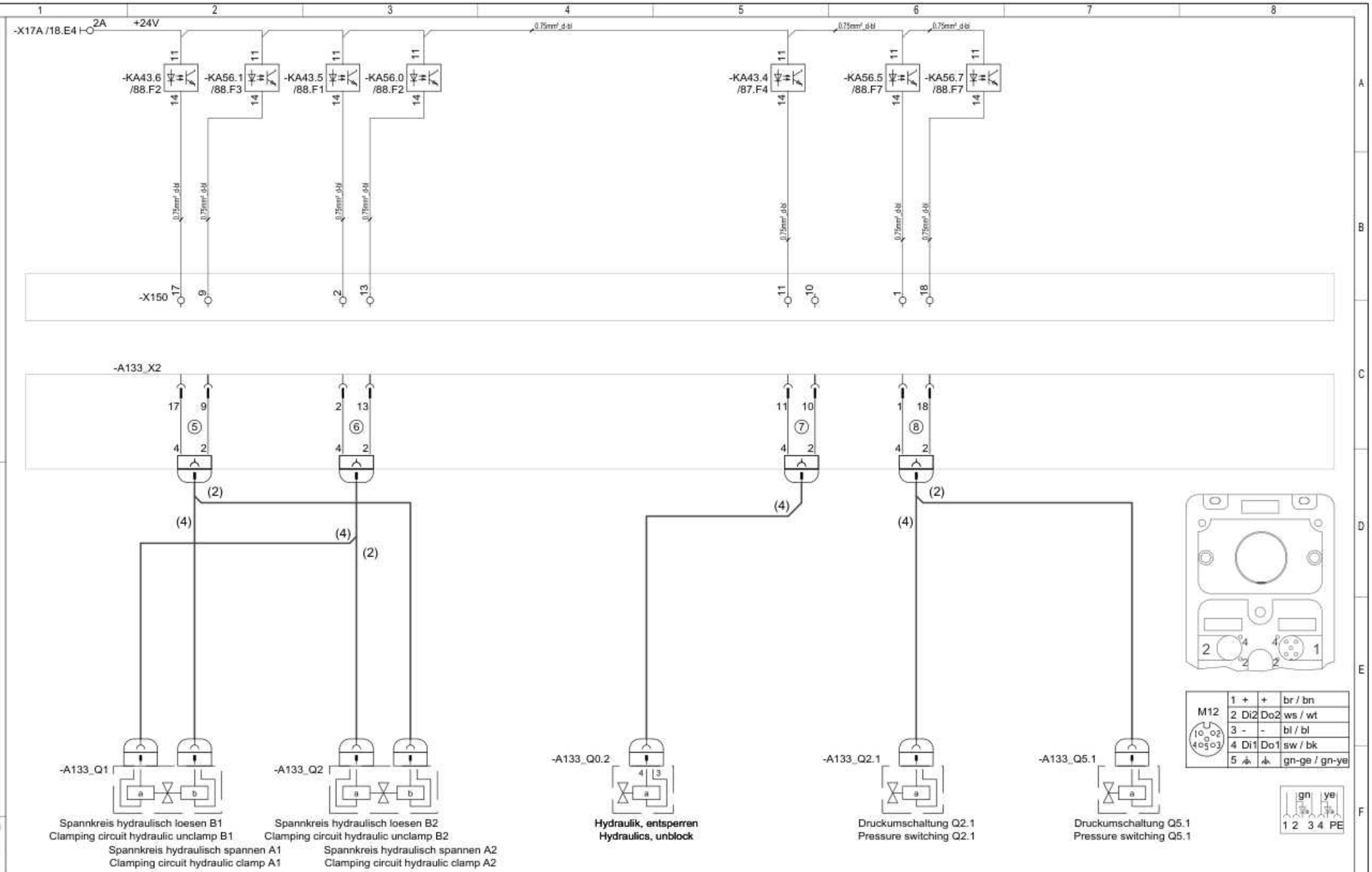
CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Spannvorrichtung hydraulisch FMB
Clamping device hydraulic FMB

Ergänzungsbenennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	81
Masch.-Nr./Machine no.		28656



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Änderungen / Modifications	Datum / Date	Name / Name
d		
c		
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a		
Ursprung Source	Auftrag / Order 259292	Maßstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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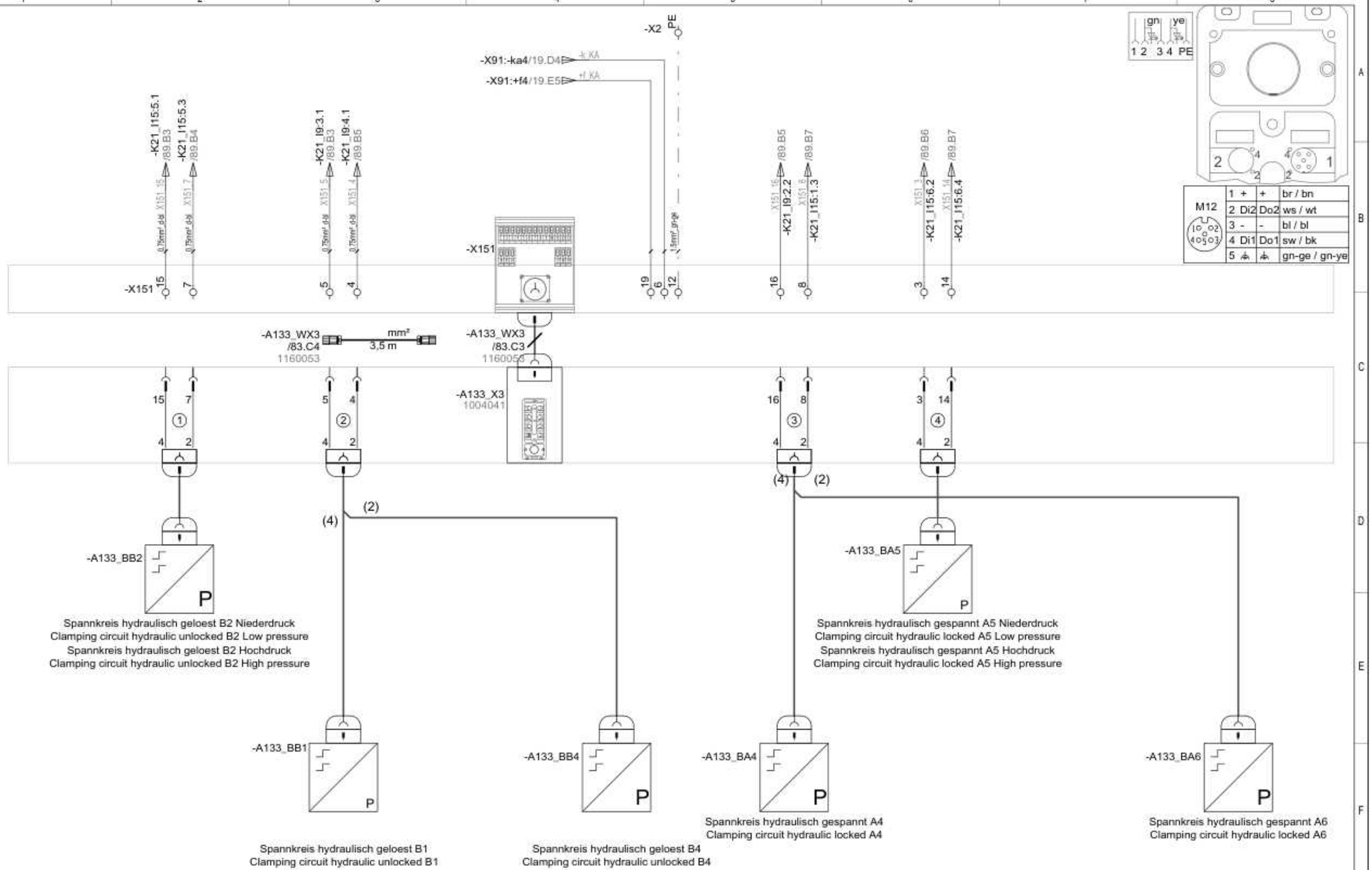
CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Spannvorrichtung hydraulisch FMB
Clamping device hydraulic FMB
Ers.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	82
Masch.-Nr./Machine no.		28656



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	Aenderungen / Modifications	Datum / Date	Name / Name
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b			
a			

Ursprung Source

Auftrag / Order 259292 | Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31I B5	Geprüft/Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aenderungs-Nr. / Modific. no.			500000172977

Dokument Kunde / Document customer

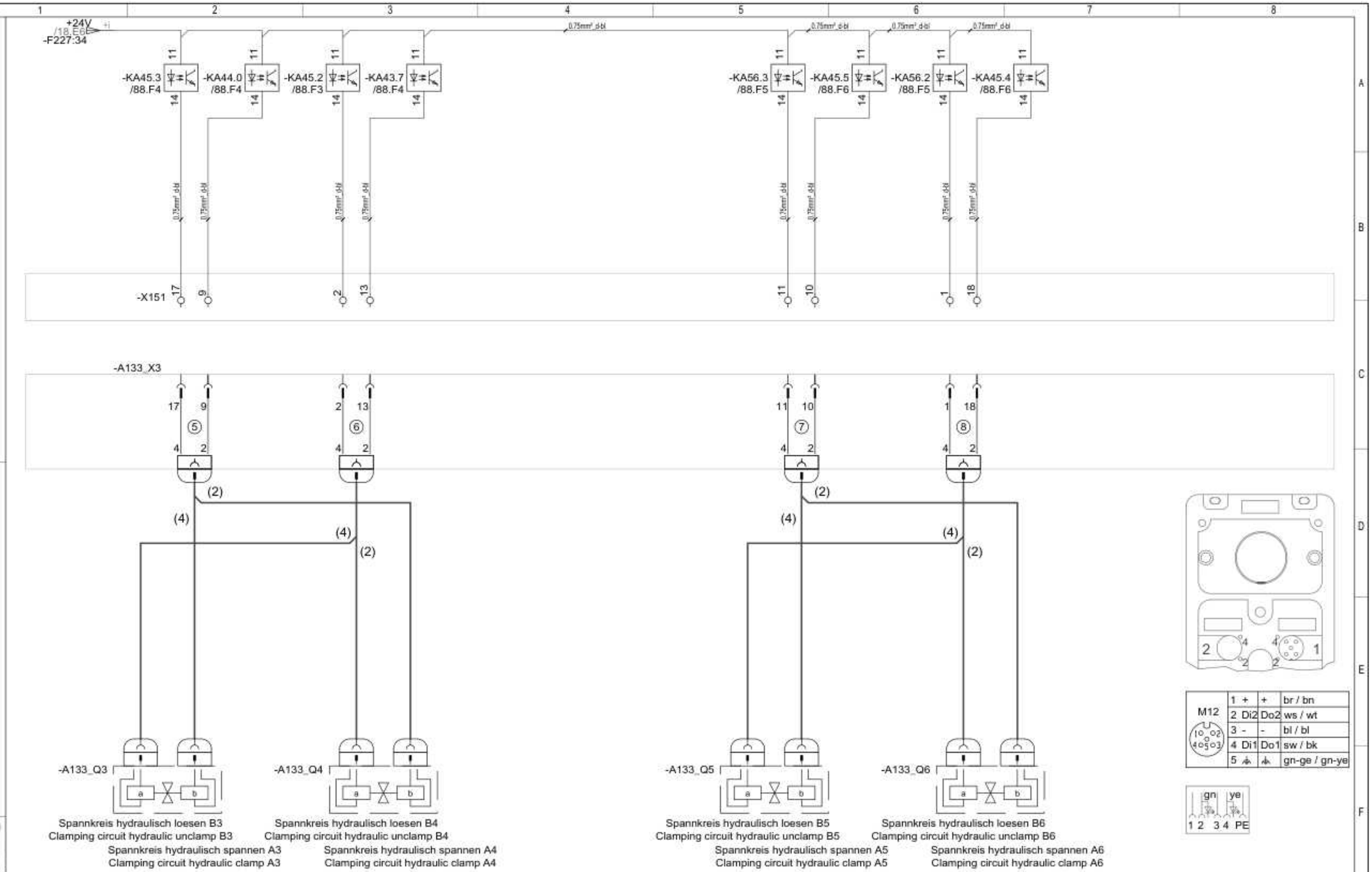
Inv.-Nr. Kunde / Inv. no. customer

CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Spannvorrichtung hydraulisch FMB
Clamping device hydraulic FMB

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	83
Masch.-Nr./Machine no.		28656



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Aenderungen / Modifications	Datum / Date	Name / Name
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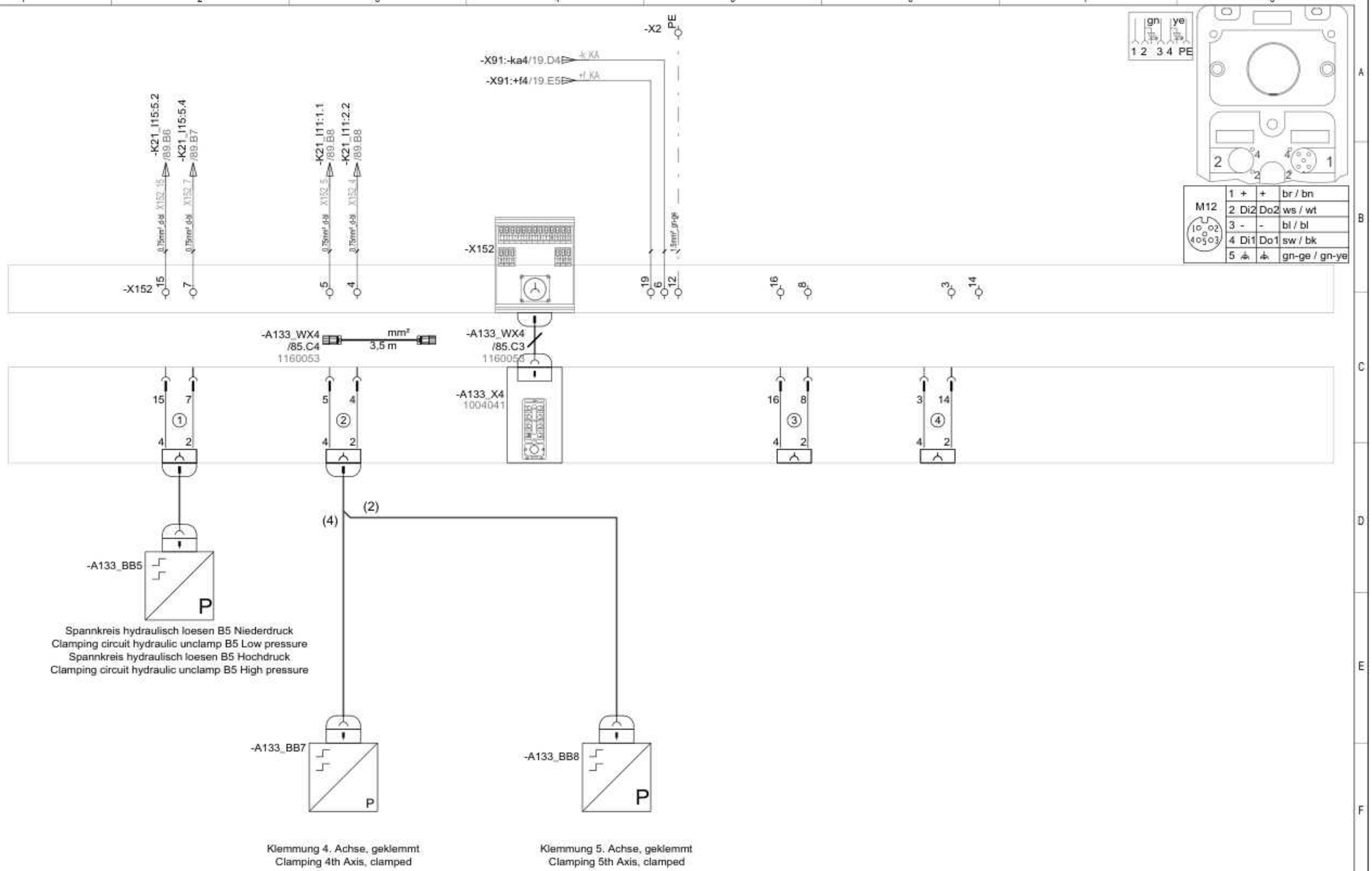
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mech. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Spannvorrichtung hydraulisch FMB
Clamping device hydraulic FMB
Ers.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	84
Masch.-Nr./Machine no.		28656



Änderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		

Ursprung Source

Auftrag / Order 259292

Maßstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977

Dokument Kunde / Document customer

Inv.-Nr. Kunde / Inv. no. customer

CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Spannvorrichtung hydraulisch FMB
Clamping device hydraulic FMB

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	85
Masch.-Nr./Machine no.		28656

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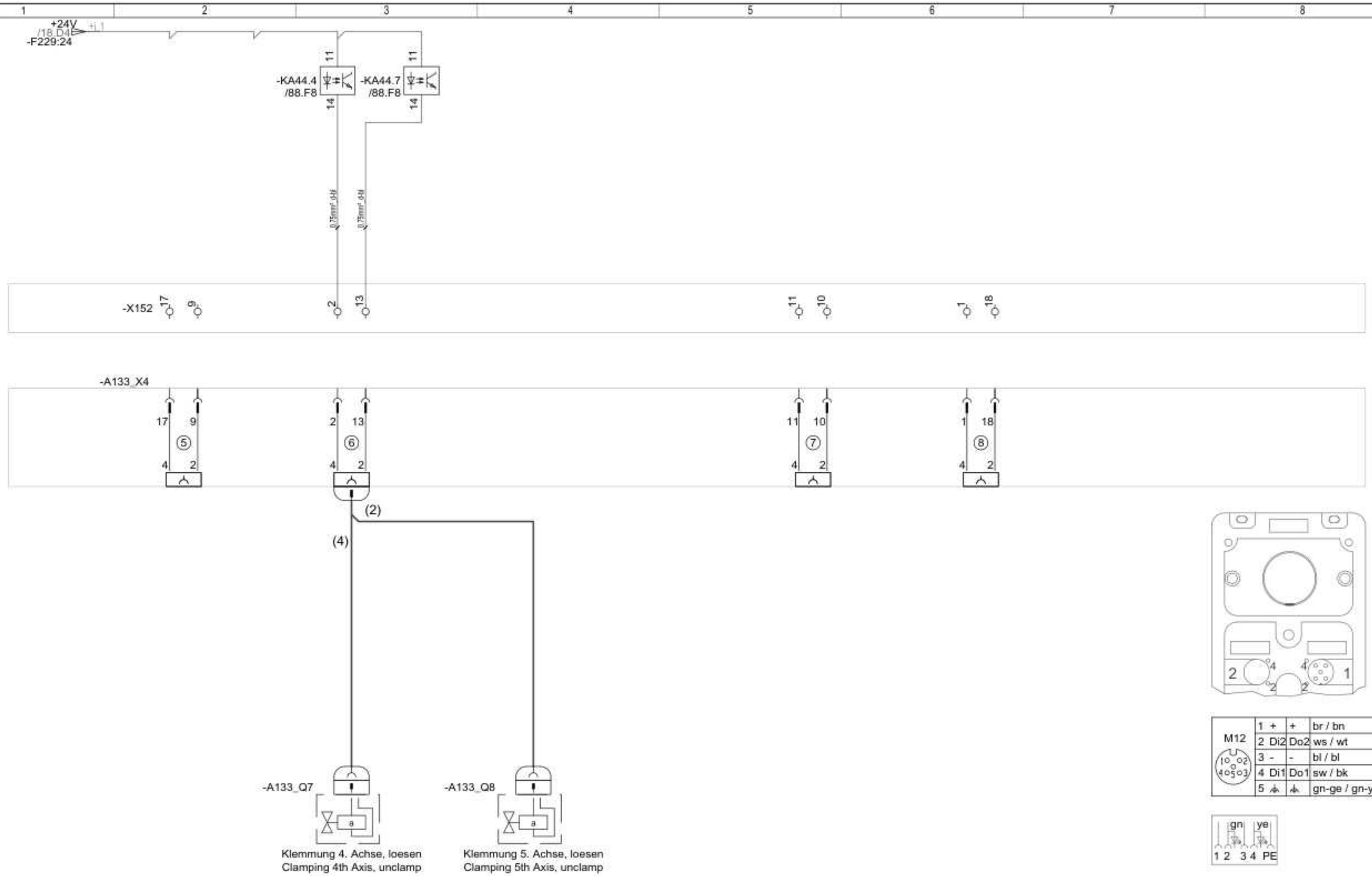

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P3 series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
EA-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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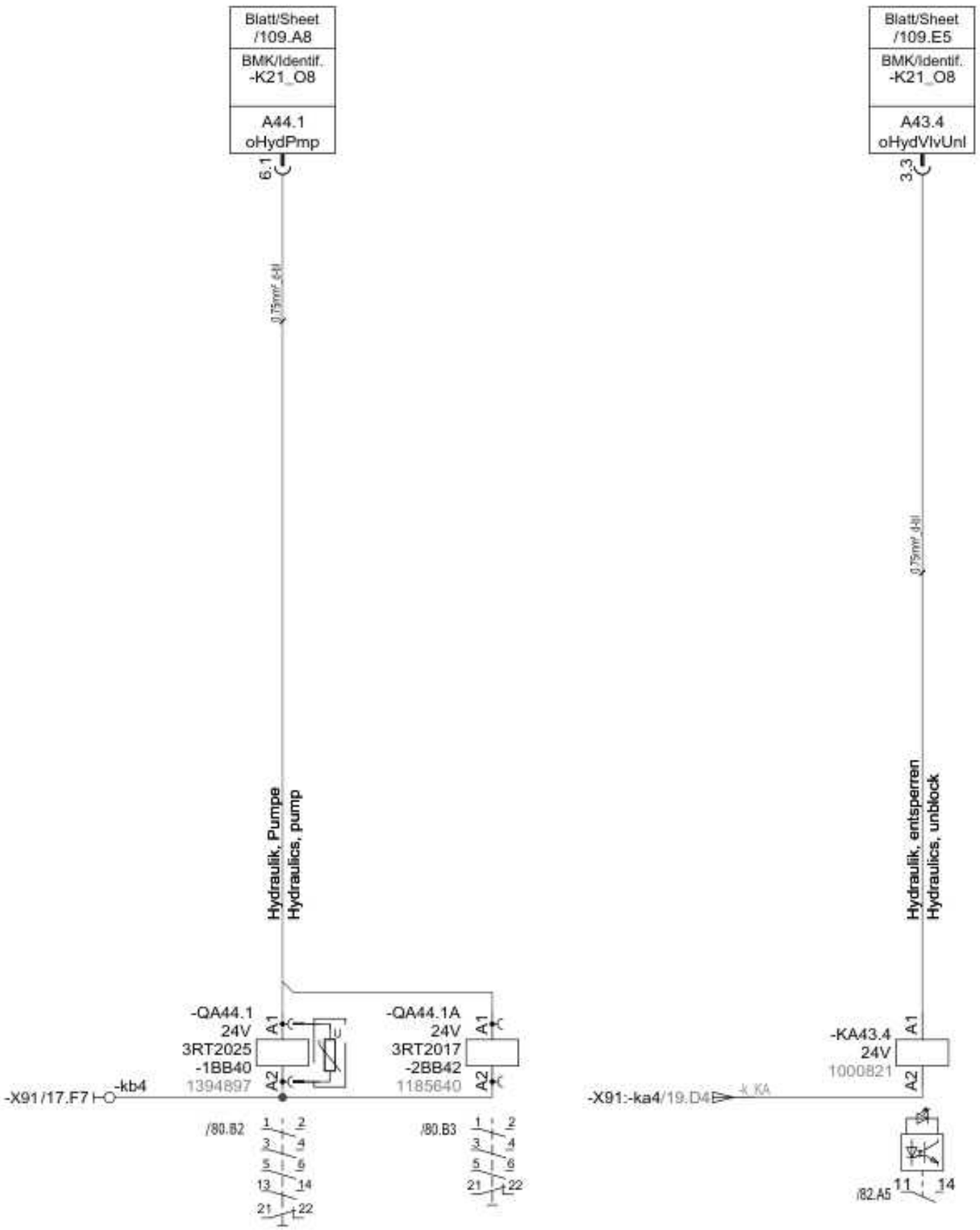
CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Spannvorrichtung hydraulisch FMB
Clamping device hydraulic FMB

Ers.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	86
Masch.-Nr./Machine no.		28656



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Aenderungen / Modifications	Datum / Date	Name / Name	Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
d			Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
c			NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
b			Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
a			EA-Module / I/O-Modules	Inline modular	Aenderungs-Nr. / Modific. no.			500000172977
Ursprung Source	Auftrag / Order 259292	Maesstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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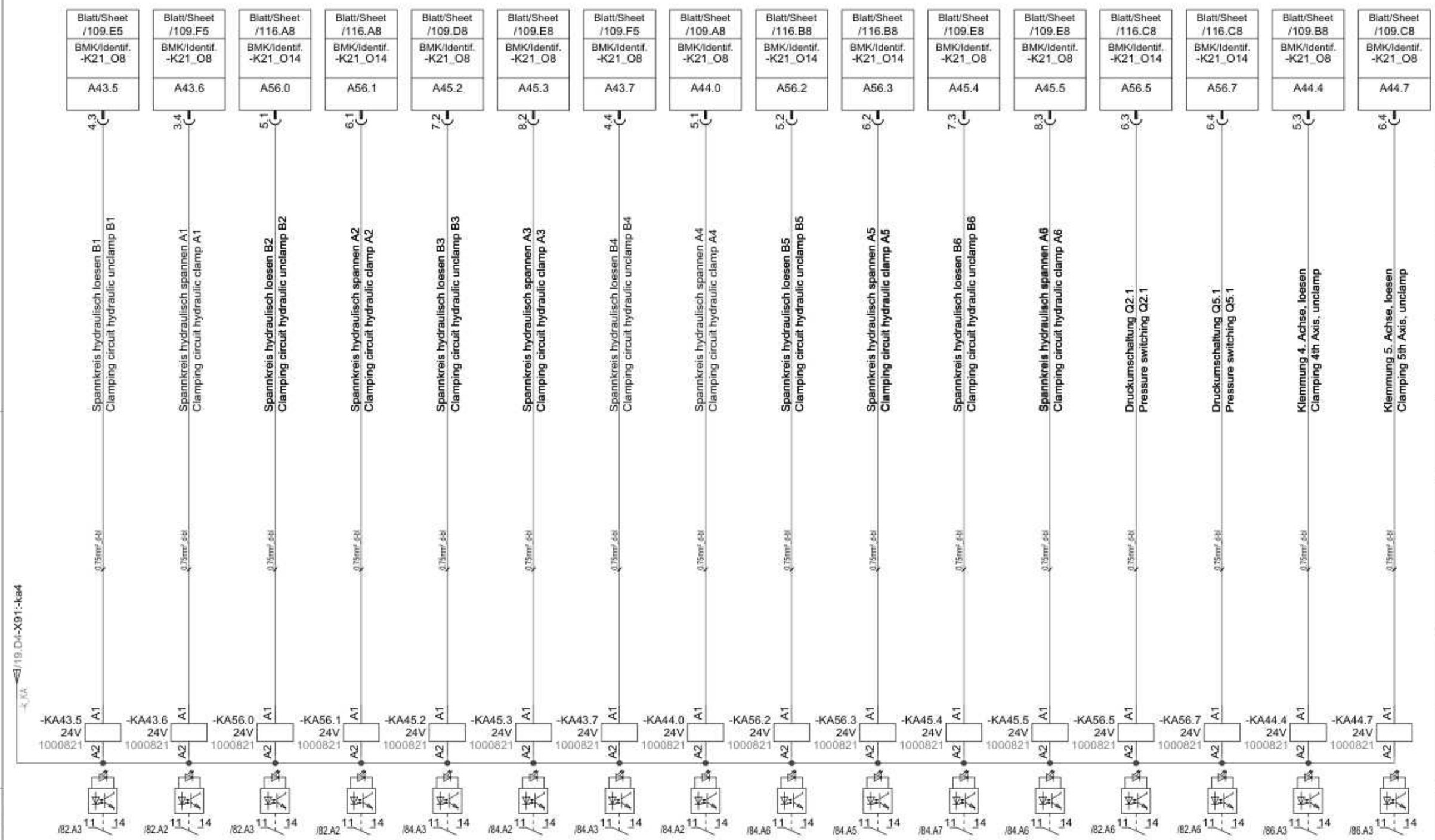
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Ausgaenge Spannvorrichtung
Outputs Clamping device
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	87
Masch.-Nr./Machine no.		28656



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E3 series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 234202	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aenderungs-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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Benennung/Title
Ausgaenge Spannvorrichtung
Outputs Clamping device

Ergänzungsbenennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	88
Masch.-Nr./Machine no.		28656

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E46.5	iHydTmp	BMK/Identif. -K21_I9	Blatt/Sheet /111.C5	2.3	Hydraulik, Temperatur OK Hydraulics, temperature OK	0.75mm² 6-bl X150_16	/81.B5-X150:16
E46.6	iHydMin	BMK/Identif. -K21_I9	Blatt/Sheet /111.C5	1.4	Hydraulik, Fuellstand OK Hydraulics, filling level OK	0.75mm² 6-bl X150_8	/81.B5-X150:8
E46.7	iHydFlt	BMK/Identif. -K21_I9	Blatt/Sheet /111.C5	2.4	Hydraulik, Filter OK Hydraulics, filter OK	0.75mm² 6-bl X150_14	/81.B7-X150:14
E46.2		BMK/Identif. -K21_I9	Blatt/Sheet /111.B5	1.2	Spannkreis hydraulisch gespannt A1 Clamping circuit hydraulic locked A1	0.75mm² 6-bl X150_15	/81.B2-X150:15
E47.0		BMK/Identif. -K21_I9	Blatt/Sheet /111.D5	3.1	Spannkreis hydraulisch geloest B1 Clamping circuit hydraulic unlocked B1	0.75mm² 6-bl X151_5	/83.B3-X151:5
E60.0		BMK/Identif. -K21_I15	Blatt/Sheet /117.A8	5.1	Spannkreis hydraulisch geloest B2 (Niederdruck 25bar BB2) Clamping circuit hydraulic unlocked B2 (Low pressure 25bar BB2)	0.75mm² 6-bl X151_15	/83.B2-X151:15
E60.1		BMK/Identif. -K21_I15	Blatt/Sheet /117.A8	6.1	Spannkreis hydraulisch gespannt A2 (Niederdruck 25bar BA2) Clamping circuit hydraulic locked A2 (Low pressure 25bar BA2)	0.75mm² 6-bl X150_5	/81.B3-X150:5
E60.4		BMK/Identif. -K21_I15	Blatt/Sheet /117.B8	5.3	Spannkreis hydraulisch geloest B2 (Hochdruck 90bar BB2) Clamping circuit hydraulic unlocked B2 (High pressure 90bar BB2)	0.75mm² 6-bl X151_7	/83.B2-X151:7
E60.5		BMK/Identif. -K21_I15	Blatt/Sheet /117.C8	6.3	Spannkreis hydraulisch gespannt A2 (Hochdruck 90bar BA2) Clamping circuit hydraulic locked A2 (High pressure 90bar BA2)	0.75mm² 6-bl X150_4	/81.B3-X150:4
E58.3		BMK/Identif. -K21_I15	Blatt/Sheet /117.B5	2.2	Spannkreis hydraulisch gespannt A3 Clamping circuit hydraulic locked A3	0.75mm² 6-bl X150_7	/81.B2-X150:7
E46.3		BMK/Identif. -K21_I9	Blatt/Sheet /111.B5	2.2	Spannkreis hydraulisch gespannt A4 Clamping circuit hydraulic locked A4	0.75mm² 6-bl X151_16	/83.B5-X151:16
E47.1		BMK/Identif. -K21_I9	Blatt/Sheet /111.D5	4.1	Spannkreis hydraulisch geloest B4 Clamping circuit hydraulic unlocked B4	0.75mm² 6-bl X151_4	/83.B3-X151:4
E60.2		BMK/Identif. -K21_I15	Blatt/Sheet /117.B8	5.2	Spannkreis hydraulisch geloest B5 (Niederdruck 25bar BB5) Clamping circuit hydraulic unlocked B5 (Low pressure 25bar BB5)	0.75mm² 6-bl X152_15	/85.B2-X152:15
E60.3		BMK/Identif. -K21_I15	Blatt/Sheet /117.B8	6.2	Spannkreis hydraulisch gespannt A5 (Niederdruck 25bar BA5) Clamping circuit hydraulic locked A5 (Low pressure 25bar BA5)	0.75mm² 6-bl X151_3	/83.B6-X151:3
E60.6		BMK/Identif. -K21_I15	Blatt/Sheet /117.C8	5.4	Spannkreis hydraulisch geloest B5 (Hochdruck 90bar BB5) Clamping circuit hydraulic unlocked B5 (High pressure 90bar BB5)	0.75mm² 6-bl X152_7	/85.B2-X152:7
E60.7		BMK/Identif. -K21_I15	Blatt/Sheet /117.C8	6.4	Spannkreis hydraulisch gespannt A5 (Hochdruck 90bar BA5) Clamping circuit hydraulic locked A5 (High pressure 90bar BA5)	0.75mm² 6-bl X151_14	/83.B6-X151:14
E58.4		BMK/Identif. -K21_I15	Blatt/Sheet /117.B5	1.3	Spannkreis hydraulisch gespannt A6 Clamping circuit hydraulic locked A6	0.75mm² 6-bl X151_8	/83.B5-X151:8
E50.0		BMK/Identif. -K21_I11	Blatt/Sheet /113.A5	1.1	4. Achse geklemmt 4th Axis clamped	0.75mm² 6-bl X152_5	/85.B3-X152:5
E50.3		BMK/Identif. -K21_I11	Blatt/Sheet /113.B5	2.2	5. Achse geklemmt 5th Axis clamped	0.75mm² 6-bl X152_4	/85.B3-X152:4

Änderungen | Modifications: a, b, c, d
Ursprung Source

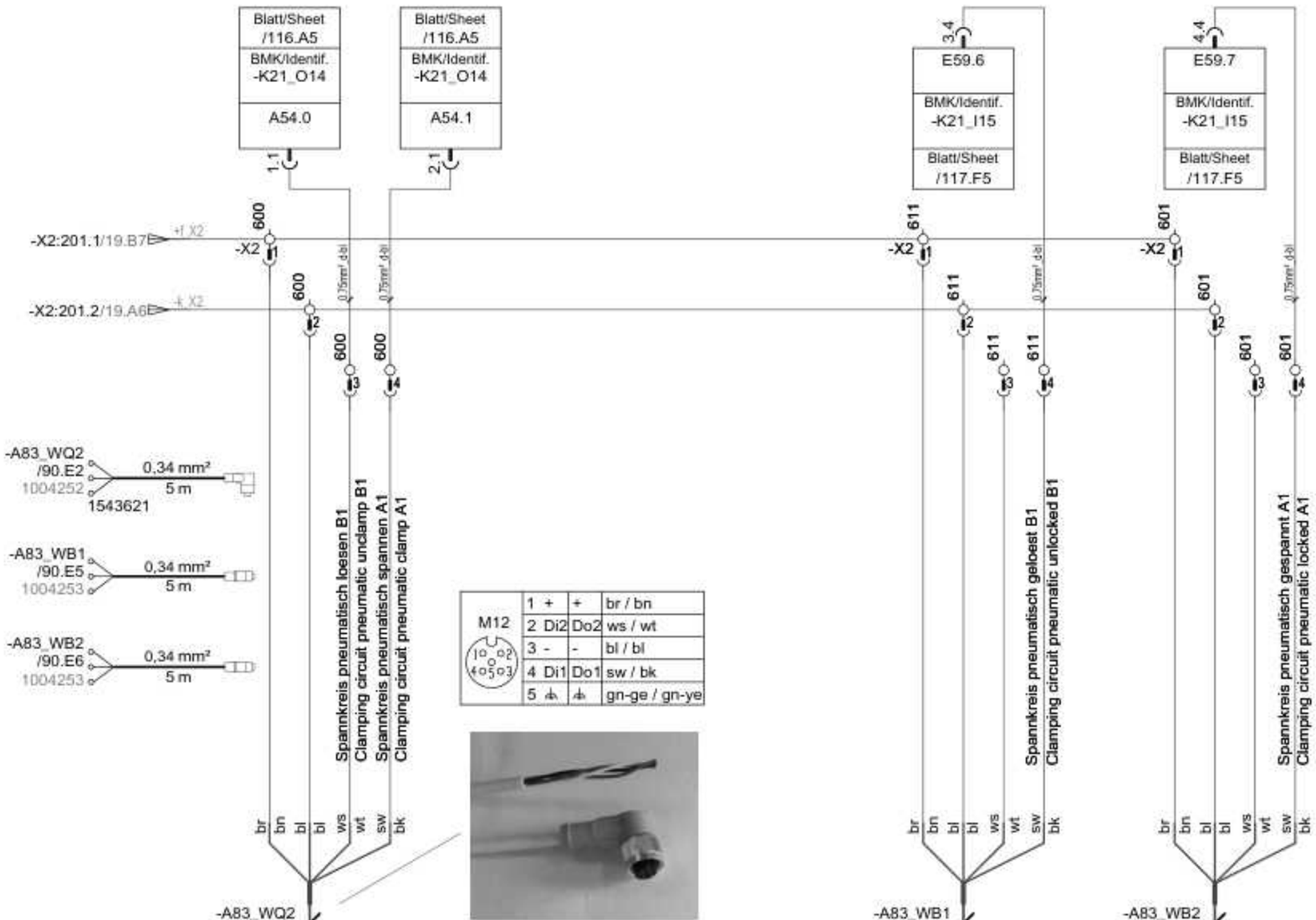
Datum / Date	30.07.2014	E3	15.3 PickUp
Name / Name	GRUBERB	CAD	W
Gez./Drawn	11.11.2016	Geprüft/Check.	Fanuc 31i B5
Freig./Approv.	KEHM	Freig./Approv.	400V/HVI
Änderungsnr. / Modific. no.	11.11.2016	Änderungsnr. / Modific. no.	Inline modular
Tbl.-Nr. Kunde / Inv. no. customer	KEHM	Tbl.-Nr. Kunde / Inv. no. customer	500000172977

Auftrag / Order 234202
Maßstab / Scale
Blattfolge / Series
Ausführung / Mach. type
NC-Typ / Type NC
Antriebe / Drives
EA-Menge / I/O-Modules
Dokument Kunde / Document customer

CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Bezeichnung / Title: Eingehende Spannvorrichtung
Inputs Clamping device
Erg.-Bezeichnung / Additional title

Dokument / Document: 3210487
Sprache / Sprache: FR
Teil-Dok. / Doc.-part: 000
Blatt / Sheet: 89
Variant / Variant: 01
Mach.-Nr. / Machine no.: 28656



M12			
	1 +	+	br / bn
	2 Di2	Do2	ws / wt
	3 -	-	bl / bl
	4 Di1	Do1	sw / bk
	5 ⏚	⏚	gn-ge / gn-ye

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Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 234202	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
EA-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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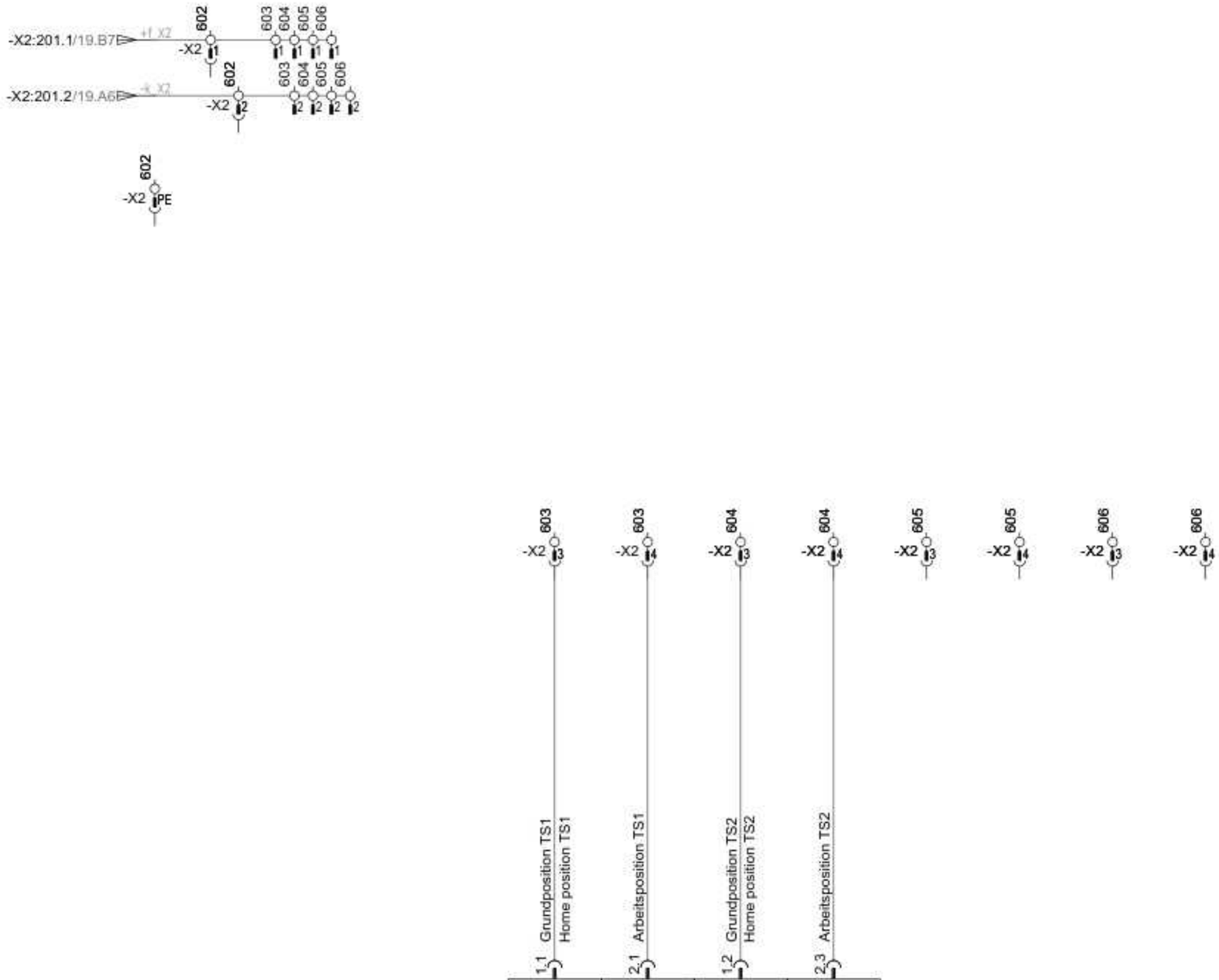
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title: Andrueckeinheit
Pressing unit
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	90
Masch.-Nr./Machine no.		28656



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BMK/Identif. -K21_I15	BMK/Identif. -K21_I15	BMK/Identif. -K21_I15	BMK/Identif. -K21_I15
Blatt/Sheet /117.A5	Blatt/Sheet /117.A5	Blatt/Sheet /117.B5	Blatt/Sheet /117.C5

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E3 series

	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			

Ursprung Source | Auftrag / Order 234202 | Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
EA-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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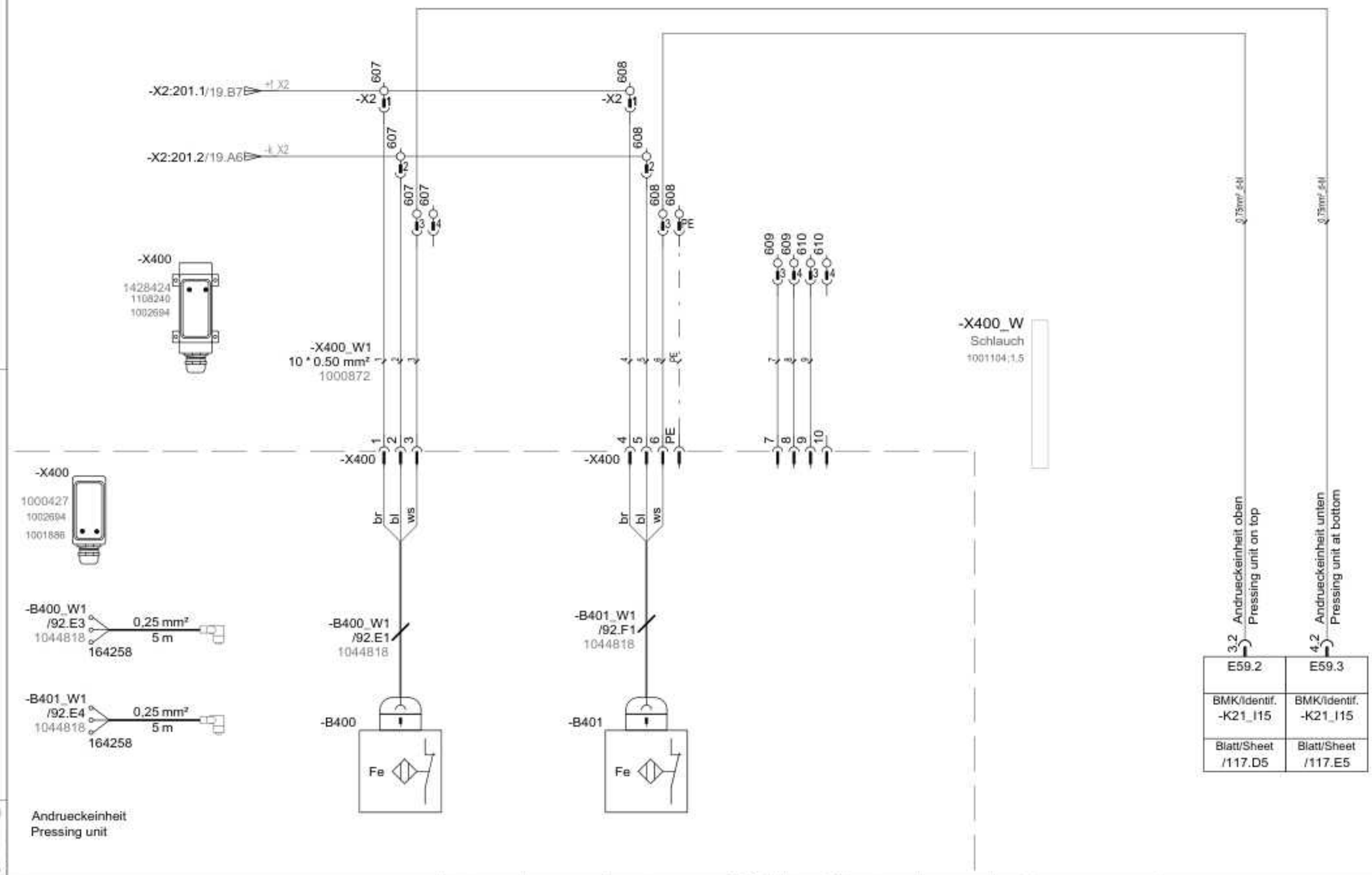
Benennung/Title
Vorbereitet fuer Ueberwachung Spannvorrichtung
Prepared for Monitoring Clamping device

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	91
Masch.-Nr./Machine no.		28656



Aenderungen / Modifications	Datum / Date	Name / Name	Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
d			Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
c			NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
b			Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
a			E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Ursprung Source	Auftrag / Order 234202	Massstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title: Andrueckeinheit
Pressing unit

Ers.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status: FR	Blatt/Sheet	92
Masch.-Nr./Machine no.		28656

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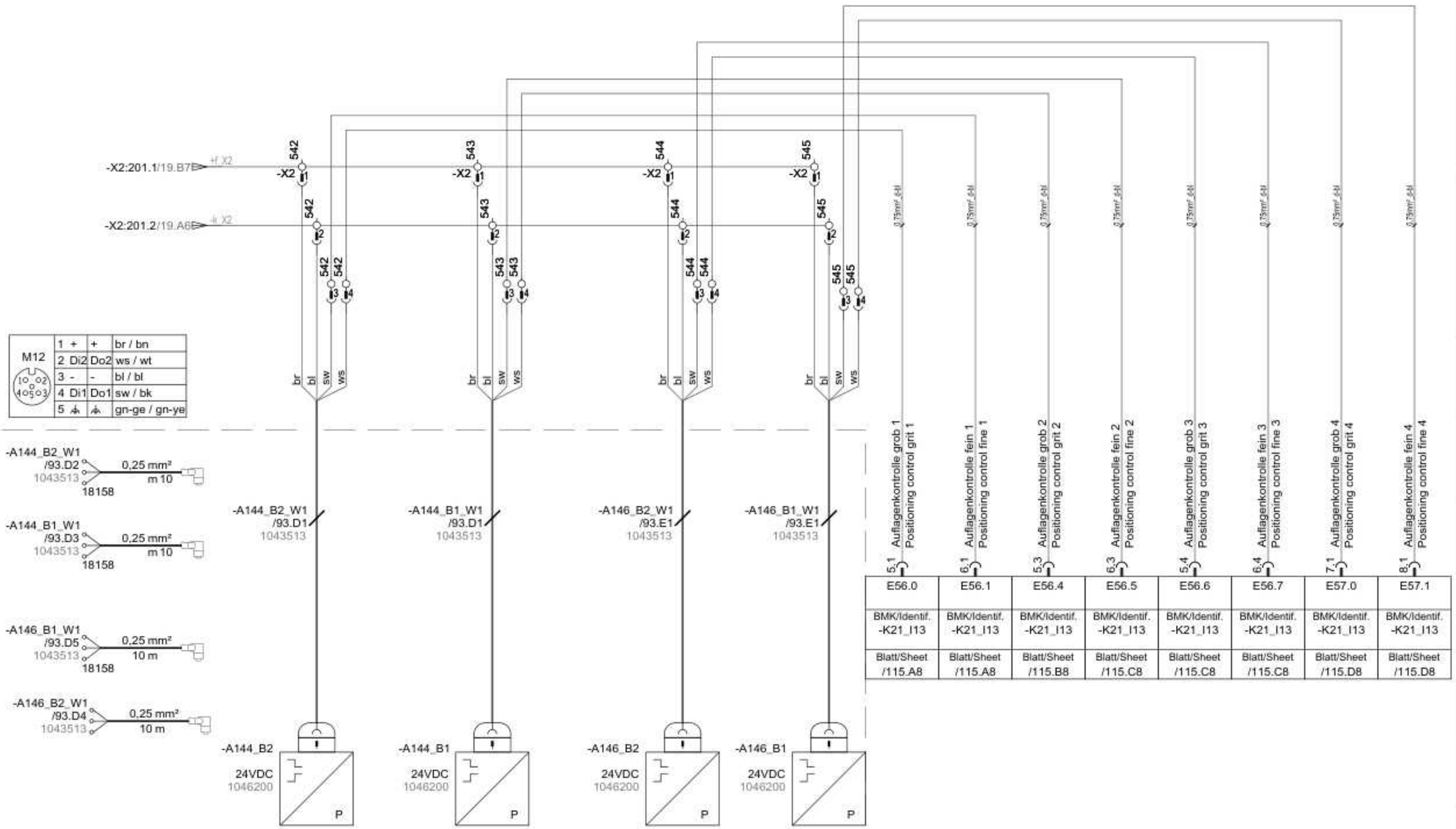

E56.0	E56.1	E56.4	E56.5	E56.6	E56.7	E57.0	E57.1
BMK/Identif. -K21_I13	BMK/Identif. -K21_I13	BMK/Identif. -K21_I13	BMK/Identif. -K21_I13	BMK/Identif. -K21_I13	BMK/Identif. -K21_I13	BMK/Identif. -K21_I13	BMK/Identif. -K21_I13
Blatt/Sheet /115.A8	Blatt/Sheet /115.A8	Blatt/Sheet /115.B8	Blatt/Sheet /115.C8	Blatt/Sheet /115.C8	Blatt/Sheet /115.C8	Blatt/Sheet /115.D8	Blatt/Sheet /115.D8

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	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			

Ursprung Source

Auftrag / Order 234202

Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mech. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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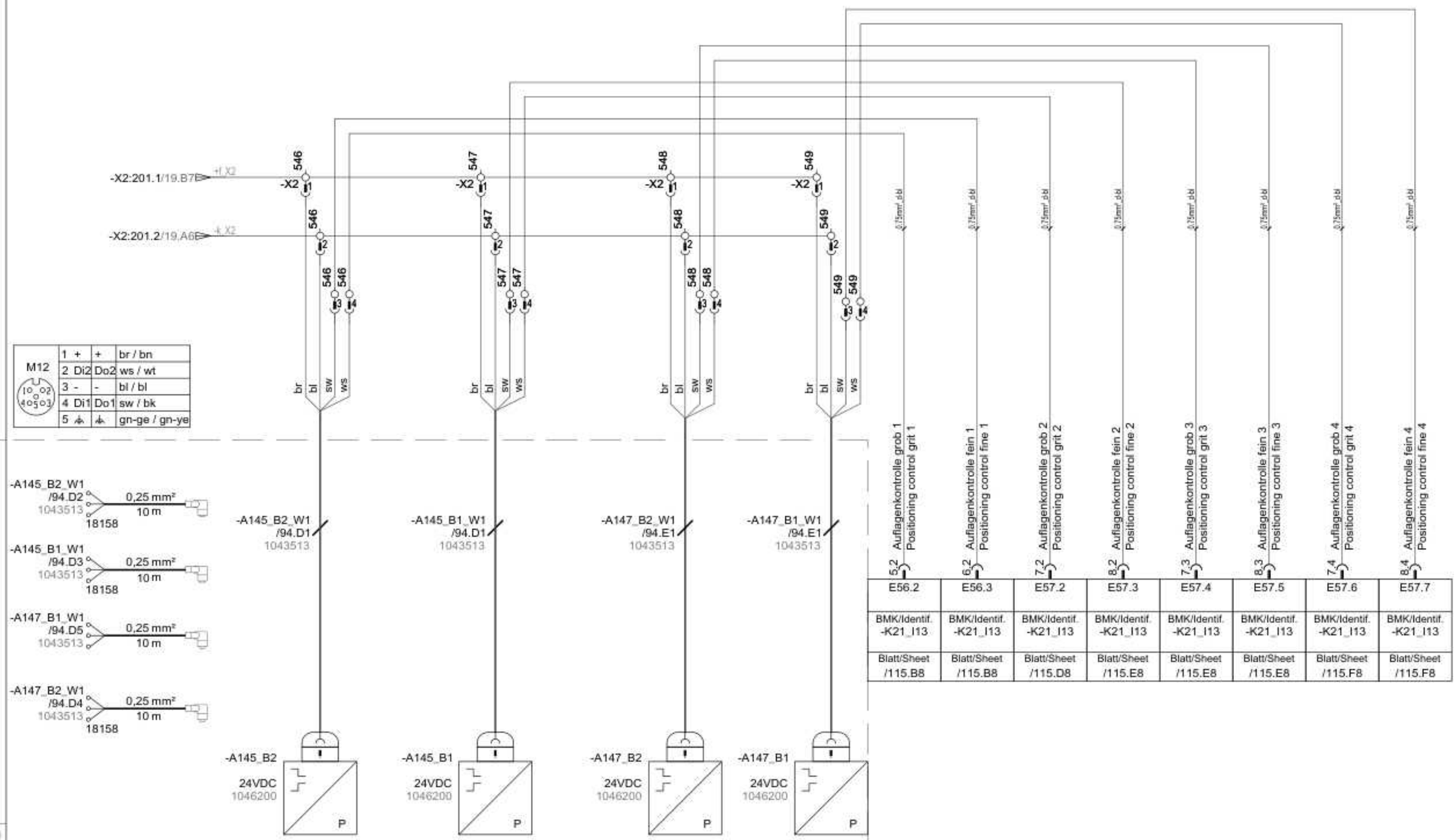
Benennung/Title
Werkstueckeinlegekontrolle Arbeitsfeld 1
Workpiece position control Working area 1

Erg.-Benennung/Additional title

Dokument / Document	3210487	Teil-Dok. / Doc.-part	000
		Version / Version	01
Status/Status	FR	Blatt/Sheet	93
Masch.-Nr./Machine no.	28656		



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Änderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		

Ursprung Source

Auftrag / Order 234202

Maßstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
EA-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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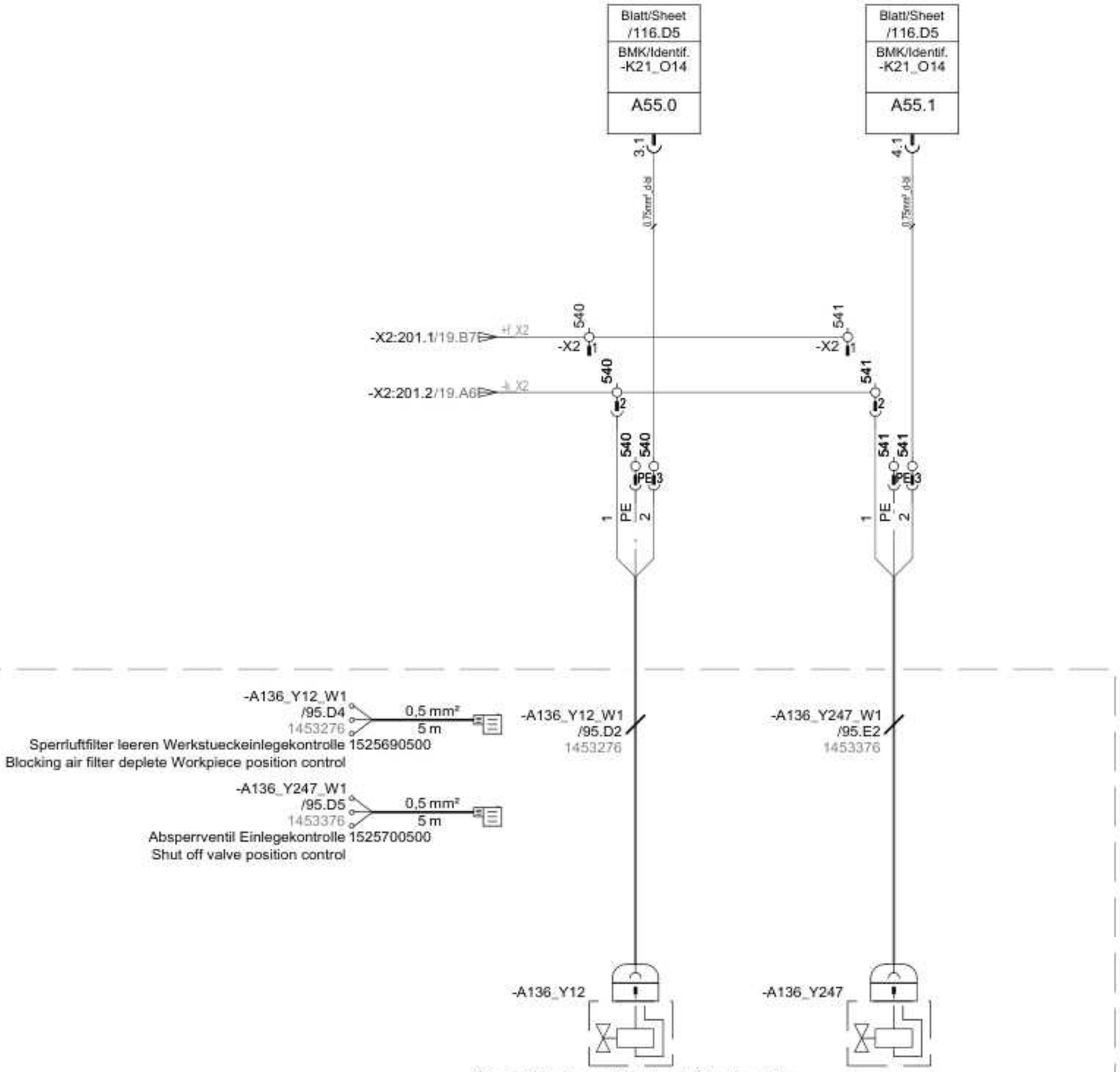
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Werkstueckeinlegekontrolle Arbeitsfeld 2
Workpiece position control Working area 2

Ers.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	94
Masch.-Nr./Machine no.		28656



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series

Aenderungen / Modifications	Datum / Date	Name / Name	Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
d			Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
c			NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
b			Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
a			EA-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Ursprung Source	Auftrag / Order 234202	Maßstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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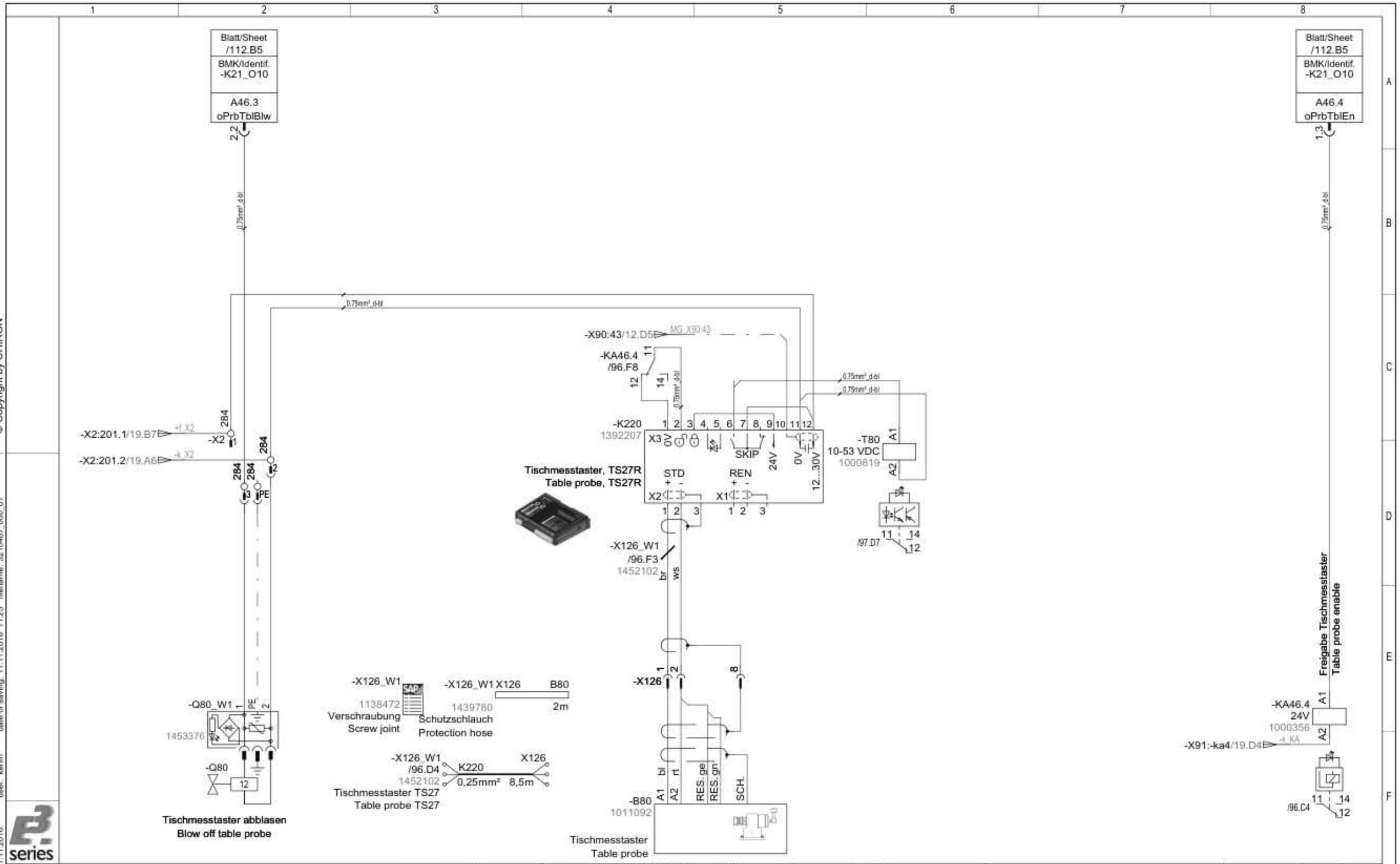
Benennung/Title
Werkstueckeinlegekontrolle
Workpiece position control

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	95
Masch.-Nr./Machine no.		28656



Änderungen / Modifications	Datum / Date	Name / Name				
d			Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
c			Ausführung / Mech. type	W	Gez./Drawn	30.07.2014	GRUBERB
b			NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
a			Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
Ursprung Source	Auftrag / Order 259292	Maßstab / Scale	E/A-Module / I/O-Modules	Inline modular	Änd.-Nr. / Modific. no.	500000172977
			Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer	

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Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Tischmesstaster Renishaw TS27R + HSI
Table probe Renishaw TS27R + HSI
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	96
Masch.-Nr./Machine no.		28656

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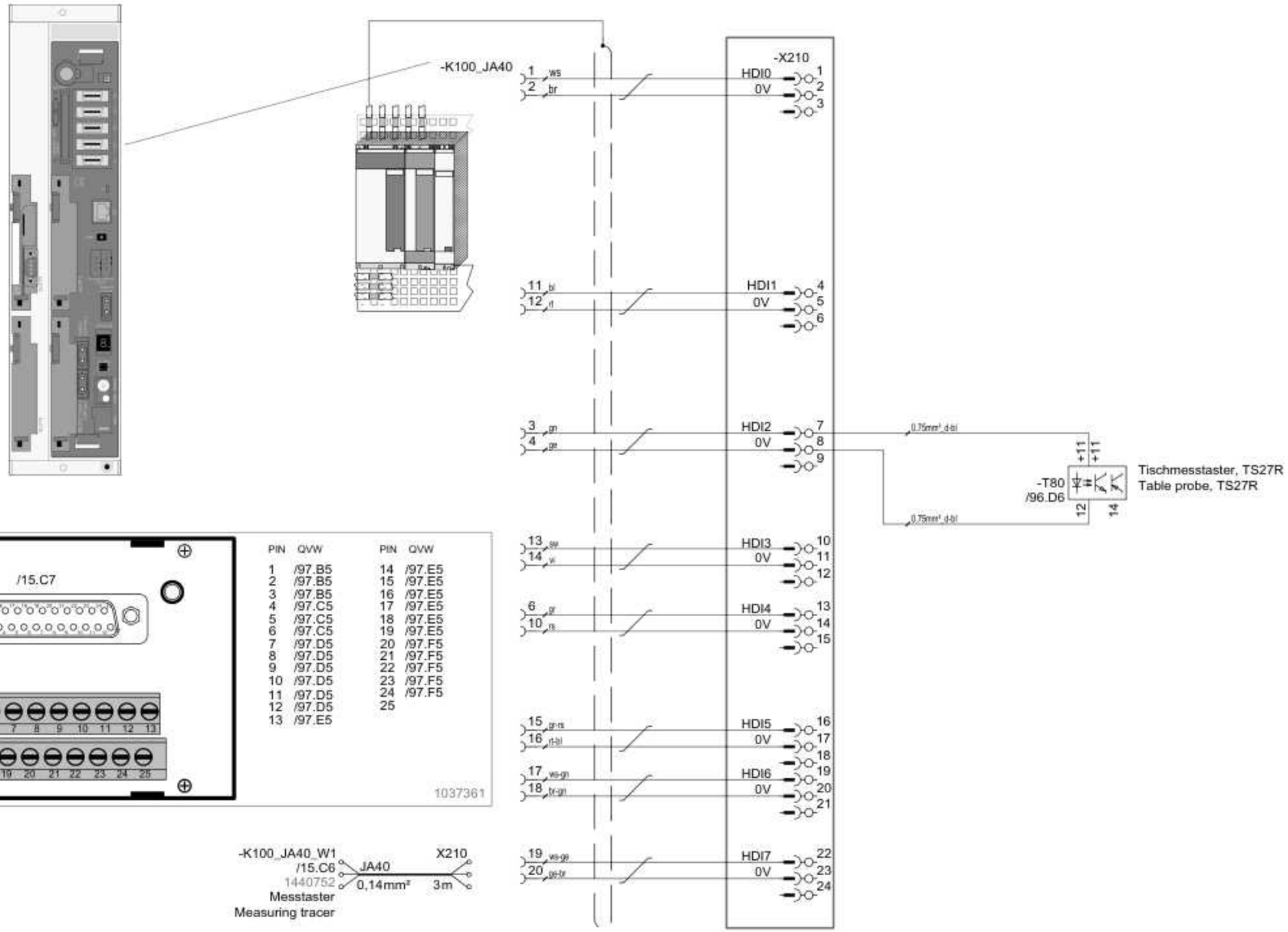
date of printing: 11.11.2016 user: kehm date of saving: 11.11.2016 11:25 filename: 3210487_000_01



series

Änderungen / Modifications	Datum / Date	Name / Name	Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
d			Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
c			NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
b			Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
a			E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Ursprung Source	Auftrag / Order 259292	Maßstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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Benennung/Title
Eingaenge Messtaster
Inputs Measuring tracer
Ergänzung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	97
Masch.-Nr./Machine no.		28656

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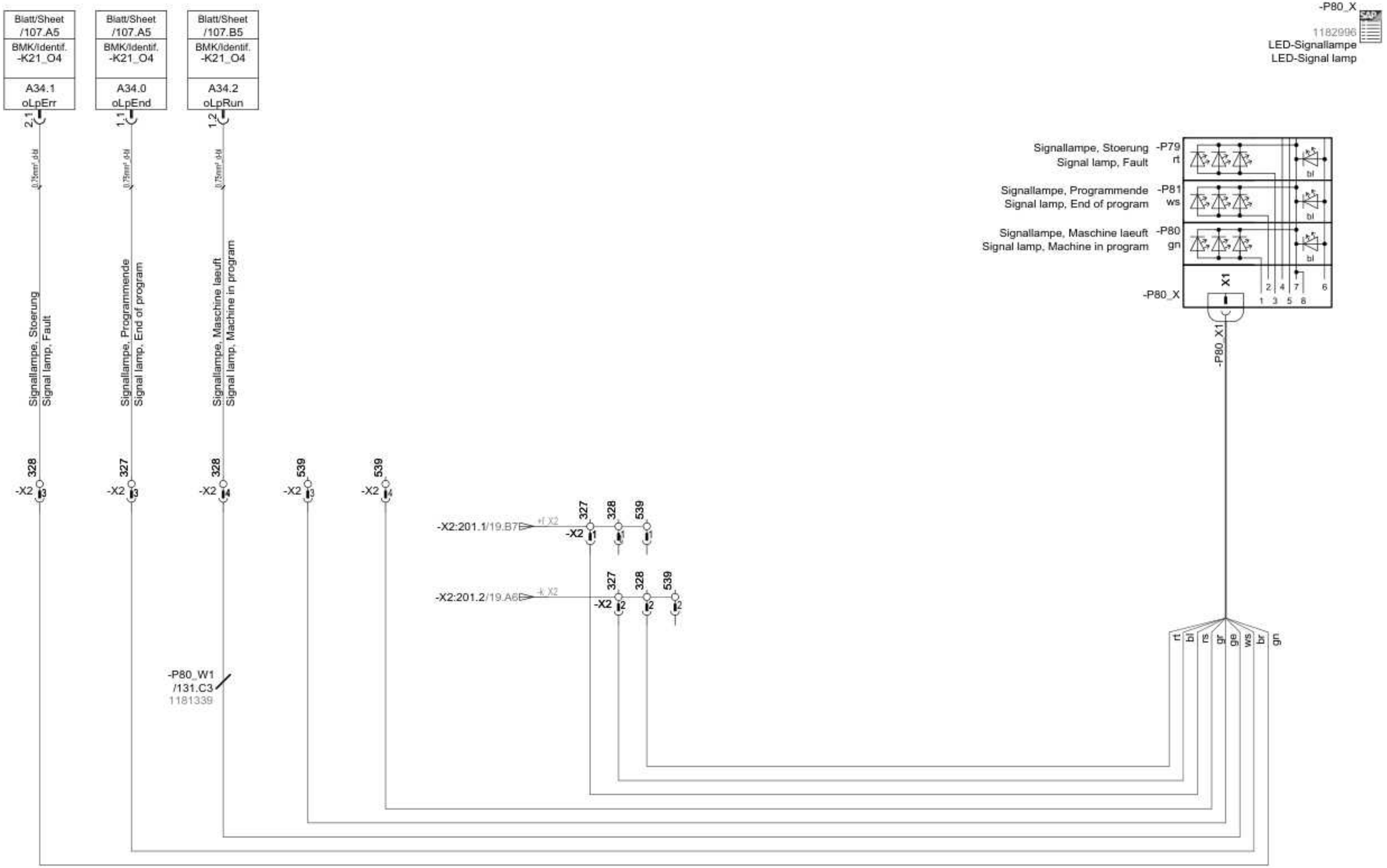

Aenderungen / Modifications	Datum / Date	Name / Name	Baureihe / Series 15.3 PickUp	CAD E3	Datum / Date	Name / Name
d			Ausführung / Mach. type W	Gez./Drawn	30.07.2014	GRUBERB
c			NC-Typ / Type NC Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
b			Antriebe / Drives 400V/HVI	Freig./Approv.	11.11.2016	KEHM
a			E/A-Module / I/O-Modules Inline modular	Aenderungs-Nr. / Modific. no.		500000172977
Ursprung Source	Auftrag / Order 259292	Maßstab / Scale	Dokument Kunde / Document customer	Inv.-Nr. Kunde / Inv. no. customer		

CHIRON-WERKE GmbH & Co. KG
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Benennung/Title: Signallampe / Signal lamp

Ers.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	98
Masch.-Nr./Machine no.		28656

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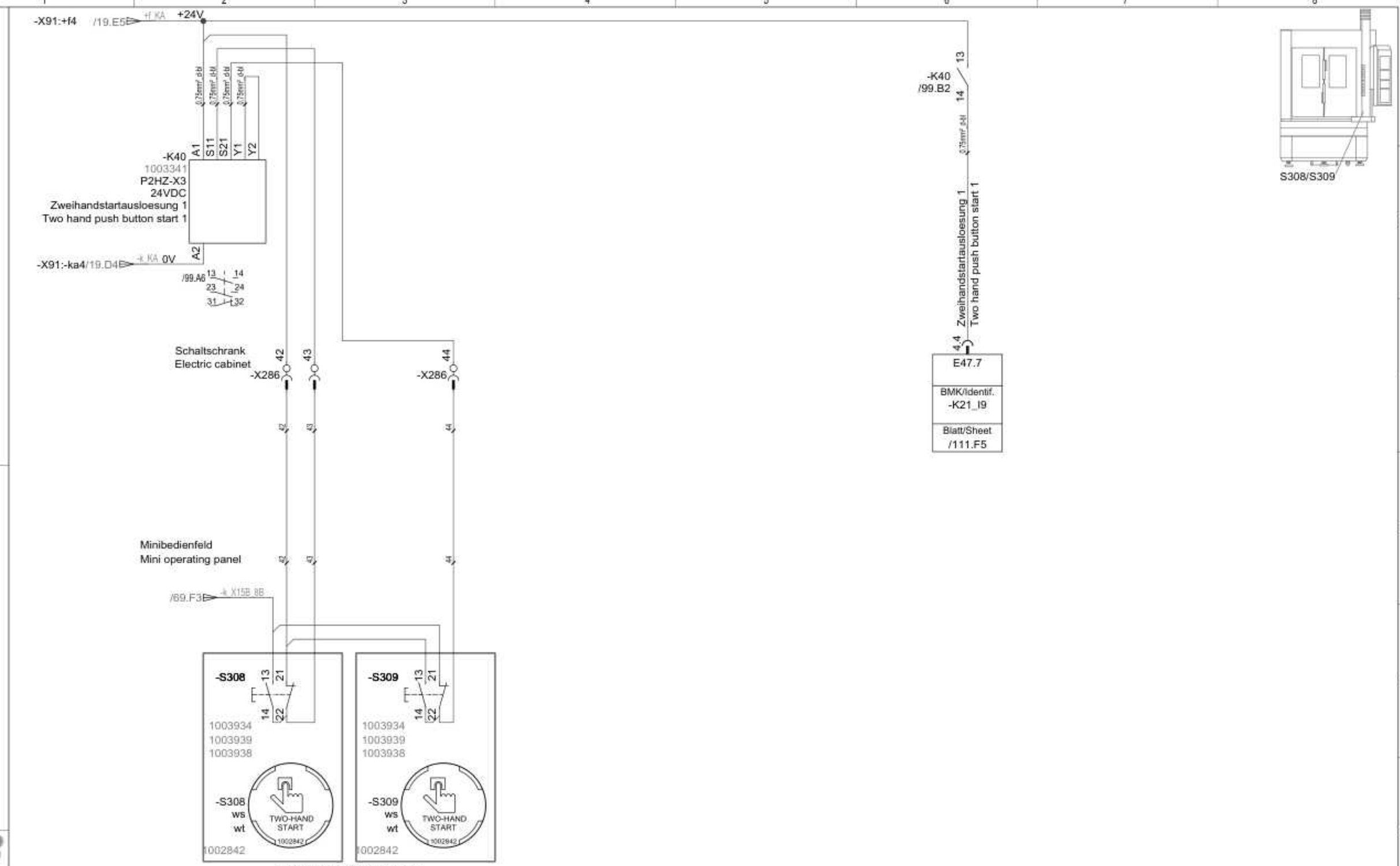

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series

Aenderungen / Modifications	Datum / Date	Name / Name	Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
d			Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
c			NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
b			Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
a			E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Ursprung Source	Auftrag / Order 259292	Maßstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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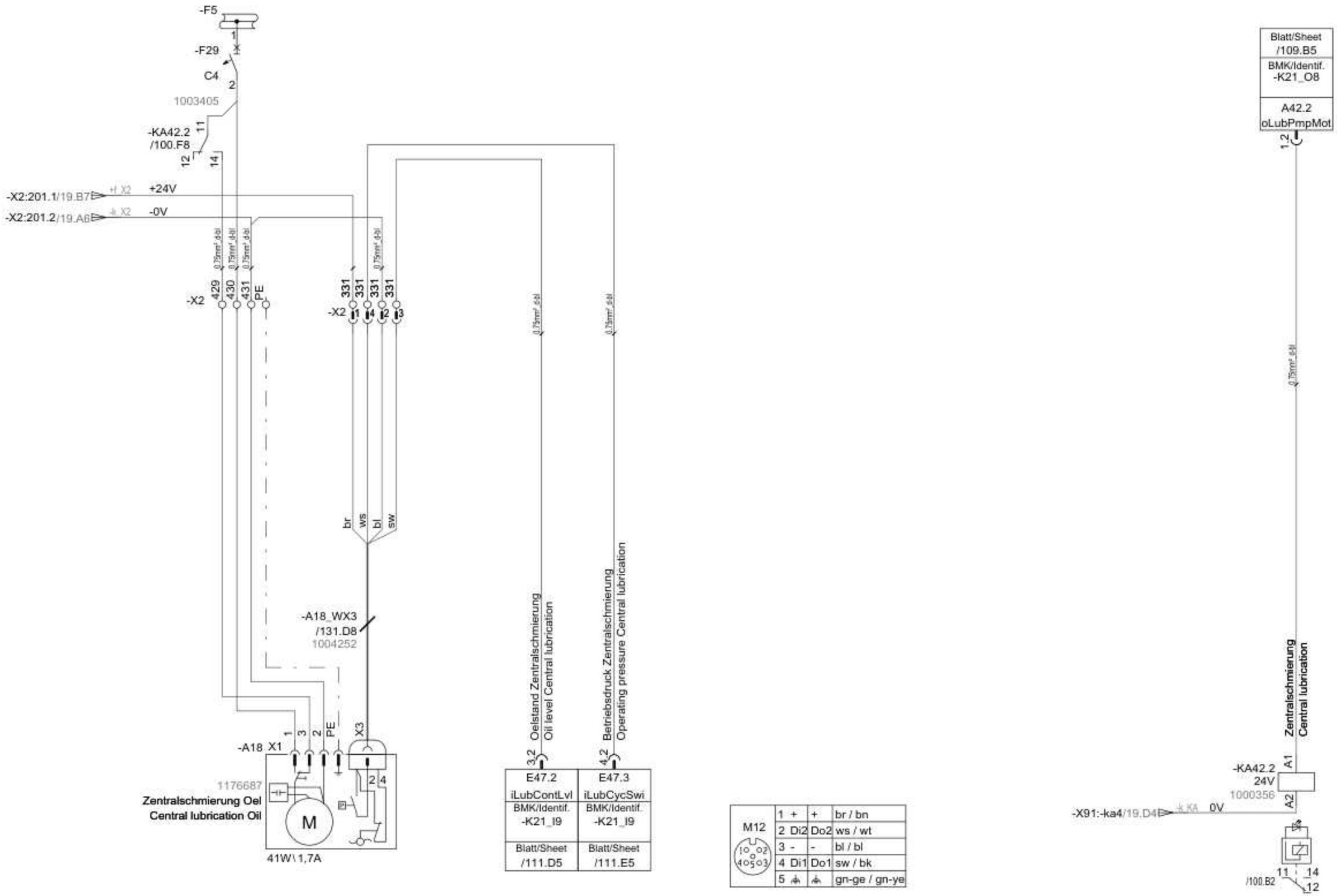
Benennung/Title
Zweihandstartausloesung
Two hand push button start

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	99
Masch.-Nr./Machine no.		28656



	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			

Ursprung Source

Auftrag / Order 259292

Maßstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.	500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer	

Name / Name: GRUBERB, KEHM, KEHM

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Benennung/Title
Zentralschmierung Oel 24V
Central lubrication Oil 24V

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	100
Masch.-Nr./Machine no.		28656

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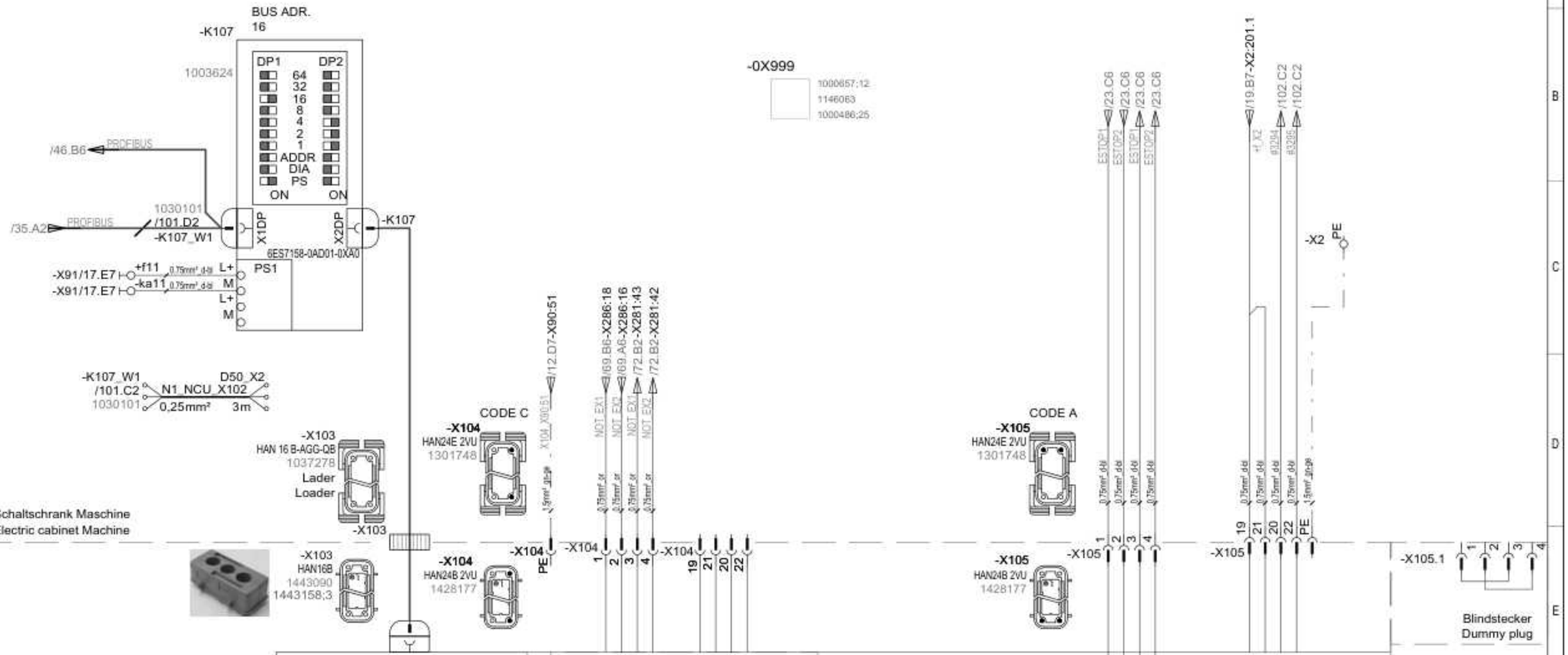
E3 series

"Signal an Lader"
"Signal at Loader"

(Signal Schutzeinrichtung nicht sicherheitsgerichtet !)

Not-Halt Maschine
Emergency stop Machine



Lader Profibus - Modul / NC-Steuerung
Loader Profibus module / Control NC
(840D/31i/...)

Für sicherheitstechnische Betrachtung:

PL=d, Kat. 3, pfh=3E-7 nach EN ISO 13849-1

Lader
Loader

	Aenderungen / Modifications	Datum / Date	Name / Name					
e				Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
c				Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
b				NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
a				Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
				E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Ursprung Source		Auftrag / Order 259292	Massstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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Benennung/Title
Lader
Loader

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	101
Masch.-Nr./Machine no.		28656

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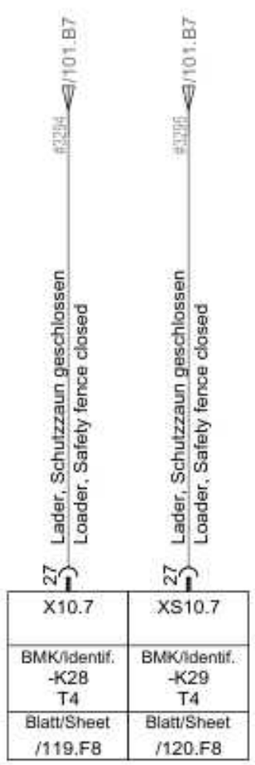
Lader, Schutzzaun geschlossen
Loader, Safety fence closed
(Signal quittiert)
(Signal confirmed)



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	Aenderungen / Modifications	Datum / Date	Name / Name
e			
c			
b			
a			
Ursprung Source		Auftrag / Order 259292	Maesstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
EA-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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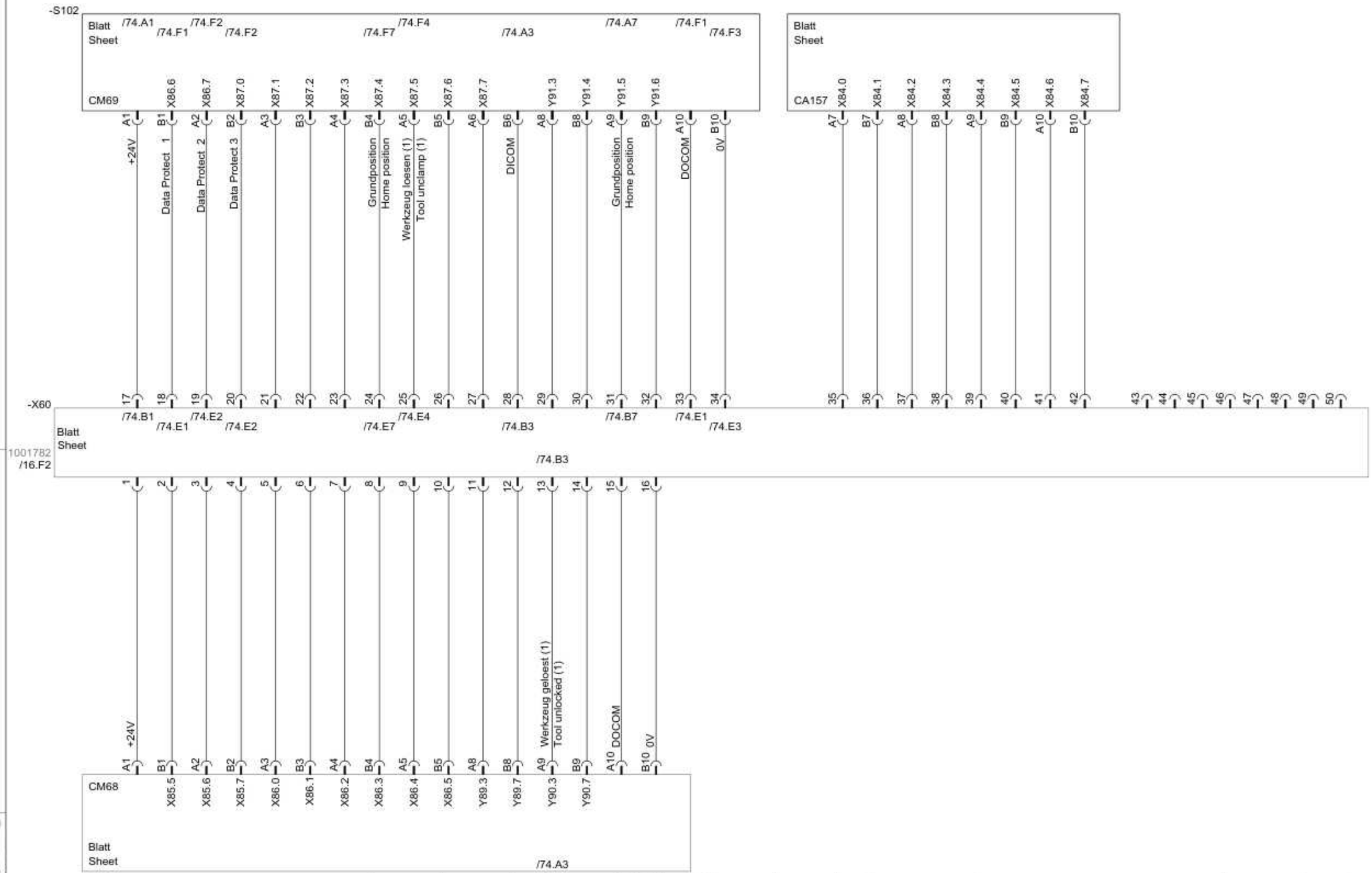
Benennung/Title: Schutzzaun, Lader
Safety fence, Loader
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	102
Masch.-Nr./Machine no.		28656



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E3 series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausfuehrung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
EA-Module / I/O-Modules	Inline modular	Aenr.-Nr. / Modific. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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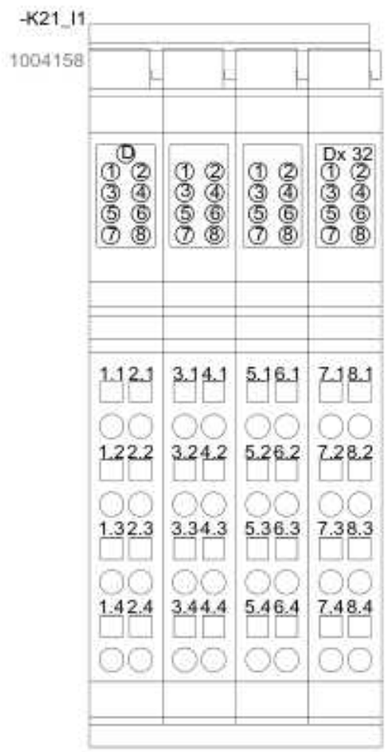
Benennung/Title
Ein-/Ausgaenge Maschinensteuertafel
In-/outputs Machine panel
Erg.-Benennung/Additional title

Dokument Document	Teil-Dok. Doc.-part	Version Version
3210487	000	01
Status/Status FR	Blatt/Sheet	103
Masch.-Nr./Machine no.		28656



Eingabebaugruppe I1
Input assembly I1

1.1	E30.0 iElcPwrOut	Versorgung Ausgaenge +e 24V Supply outputs +e 24V	/17.D8
2.1	E30.1 iElcBimStp	Bimetallausloeser, Stopp sofort Bimetallic relay, Stop immediately	/24.F4
1.2	E30.2 iElcBimStpD	Bimetallausloeser, Stopp verzoegert Bimetallic relay, Stop delayed	/24.F8
2.2	E30.3 iElcCtrOn	Ueberwachung, Not-Halt Sicherheitsrelais Monitoring, Emergency stop Safety unit	/42.F4
1.3	E30.4 iElc24v	24V Steuerspannung OK 24V Control voltage OK	/8.E8
2.3	E30.5		
1.4	E30.6 iPnmPrs	Pneumatikdruck Pneumatic pressure	/14.C3
2.4	E30.7		
3.1	E31.0 iDrvBrZ	Bremse Z-Achse, angesteuert Brake Z-Axis, energized	/22.F6
4.1	E31.1 iDorOk	Ueberwachung, Schutztueren Sicherheitsrelais Monitoring, Protection doors Safety unit	/42.F6
3.2	E31.2 iDorRgCl	Schutztuer rechts, geschlossen Protection door right, closed	/37.F8
4.2	E31.3		
3.3	E31.4		
4.3	E31.5 iElcCooOk	Stoerung Schaltschrankkuehler Fault Electric cabinet cooler	/11.F5
3.4	E31.6 iWpc90	Werkstueckwechsler in 90°-Position, Ueberwachung Workpiece changer in 90° position, Monitoring	/79.F6
4.4	E31.7		

5.1	E32.0 iCltMoiSp1	Feuchtigkeitssensor Hauptspindelmotor Moisture sensor Main spindle motor	/58.F3
6.1	E32.1 iCltRdy	Kuehlmittelanlage betriebsbereit Coolant system ready	/52.F8
5.2	E32.2 iCltClstMax	Fuellstand, Reinstwasser Maximum Filling level, super-clean water, maximum	/53.F8
6.2	E32.3 iCltCcMin	Fuellstand, Spaenefoerderer Minimum Filling level, chip conveyor, minimum	/50.F7
5.3	E32.4 iCltCcMax	Fuellstand, Spaenefoerderer Maximum Filling level, chip conveyor, maximum	/50.F8
6.3	E32.5 iCltClnMin	Fuellstand, Reinwasser Minimum Filling level, clean water, minimum	/52.F8
5.4	E32.6 iCltFltHous	Reserve Reserve	/53.F7
6.4	E32.7 iCltClstMin	Fuellstand, Reinstwasser Minimum Filling level, super-clean water, minimum	/53.F8
7.1	E33.0 iCltCcManBt	Spaenefoerderer, manueller Betrieb Chip conveyor, manual mode	/50.F8
8.1	E33.1 iCltFltOk	Filter Kuehlmittel OK Coolant filter OK	/52.F8
7.2	E33.2 iCltFlcOk	Filtervlies vorhanden Filter fleece available	/53.F7
8.2	E33.3 iCltFltMax	Fuellstand, Filtergehaeuse Maximum Filling level, filter housing, maximum	/53.F7
7.3	E33.4		
8.3	E33.5 iDorLdLfCl	Beladetuer links, geschlossen Loading door left, closed	/38.F3
7.4	E33.6 iDorLdRgCl	Schutztuer rechts, geschlossen Protection door right, closed	/38.F6
8.4	E33.7		

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E3 series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausfuehrung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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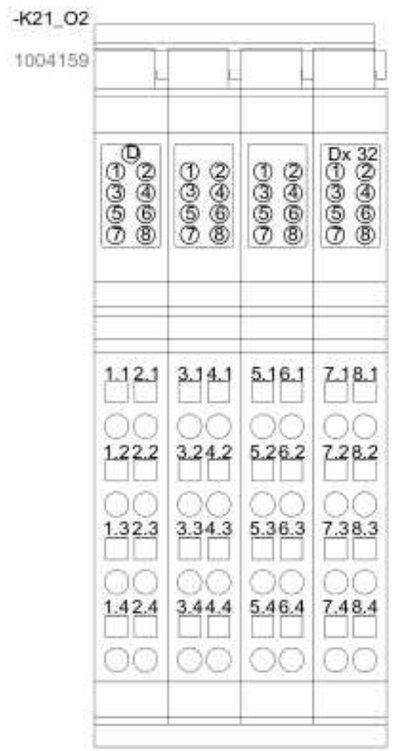
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Eingabebaugruppe I1 E30.0 - E33.7
Input assembly I1 E30.0 - E33.7
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	104
Masch.-Nr./Machine no.		28656



Ausgabebaugruppe O2
Output assembly O2

1.1	A30.0		
2.1	A30.1		
1.2	A30.2		
2.2	A30.3		
1.3	A30.4		
2.3	A30.5 oPnmOn	Pneumatikdruck Pneumatic pressure	/14.A5
1.4	A30.6 oLpMc	Arbeitsraumbeleuchtung aus Working area lights off	/9.A8
2.4	A30.7		
3.1	A31.0		
4.1	A31.1		
3.2	A31.2		
4.2	A31.3 oDrvEn	Spindel- und Achsmotoren Spindle and axes motors	/25.A7
3.3	A31.4		
4.3	A31.5 oDorOpLp	Schutztuer entriegelt Protection door unlocked	/72.A5
3.4	A31.6 oCltPmpPrl	Kuehlmittelpumpe, Niederdruck Coolant pump, low pressure	/56.A7
4.4	A31.7 oCltVlvExt	Kuehlmittelventil, Werkzeugaussenkuehlung Coolant valve, external tool cooling	/57.A2

5.1	A32.0 oDorRgUlk	Verriegelungsmagnet, Schutztuer rechts entriegeln Lockmagnet, Protective door right unlock	/37.A5
6.1	A32.1 oCtrOnLp	Steuerung ein Control on	/72.A3
5.2	A32.2 oCltCooMot	Umwaelzpumpe, Kuehlung Motorplatte Circulating pump, Cooling motor plate	/54.A6
6.2	A32.3 oPnmFlt	Sperrluftfilter leeren Blocking air filter deplete	/14.A5
5.3	A32.4		
6.3	A32.5 oCltCcMot	Spaenefoerderer Vorlauf Chip conveyor Forward stroke	/56.A8
5.4	A32.6 oCltPmpPrh	Kuehlmittelpumpe, Hochdruck Coolant pump, high pressure	/54.A2
6.4	A32.7 oCltVlvPrh	Kuehlmittelventil, Hochdruck Coolant valve, high pressure	/54.A3
7.1	A33.0 oCltPmpExt	Kuehlmittelpumpe, Werkzeugaussenkuehlung Coolant pump, external tool cooling	/54.A4
8.1	A33.1 oCltPmpLft	Hebepumpe Lift pump	/54.A4
7.2	A33.2 oCltMotFlc	Transport, Filtervlies Transport, filter fleece	/54.A5
8.2	A33.3 oCltPmpBlk	Sperrwasserpumpe Seal water pump	/54.A7
7.3	A33.4 oCltVar1	Kuehlmittel Hochdruck, variabel (BCD1) BCD "1" Coolant, high pressure, variable (BCD1) BCD "1"	/55.A4
8.3	A33.5 oCltVar2	Kuehlmittel Hochdruck, variabel (BCD1) BCD "2" Coolant, high pressure, variable (BCD1) BCD "2"	/55.A5
7.4	A33.6 oCltVar4	Kuehlmittel Hochdruck, variabel (BCD1) BCD "4" Coolant, high pressure, variable (BCD1) BCD "4"	/55.A5
8.4	A33.7 oCltPmpVac	Vakuumpumpe Vacuum pump	/54.A8

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E3 series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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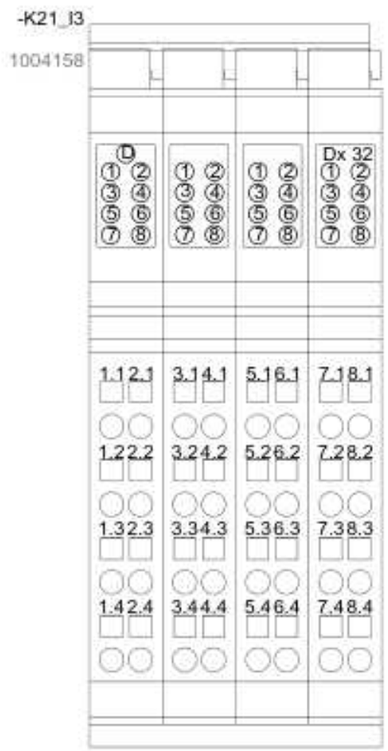
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Ausgabebaugruppe O2 A30.0 - A33.7
Output assembly O2 A30.0 - A33.7
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	105
Masch.-Nr./Machine no.		28656



Eingabebaugruppe I3
Input assembly I3

1.1	E34.0		
2.1	E34.1		
1.2	E34.2		
2.2	E34.3 iElcVoltOk	Unterspannungsrelais OK Low voltage relay OK	/26.E7
1.3	E34.4		
2.3	E34.5 iDorLdCl	Ueberwachung, Beladetueren Sicherheitsrelais Monitoring, Loading doors Safety unit	/44.F4
1.4	E34.6 iWpcErr	Alarm AFO-Controller Alarm AFO-Controller	/78.F5
2.4	E34.7 iWpcLck	Werkstueckwechsler verriegelt Workpiece changer locked	/79.F5
3.1	E35.0 iWpcUlk	Werkstueckwechsler abgehoben Workpiece changer unlocked	/79.F5
4.1	E35.1 iWpcTbl1	Werkstueckpalette 1 unter Spindel Workpiece pallet 1 below the spindle	/79.F6
3.2	E35.2 iWpcTbl2	Werkstueckpalette 2 unter Spindel Workpiece pallet 2 below the spindle	/79.F6
4.2	E35.3 iWrkAck1Bt	Quittierung Confirmation	/69.F8
3.3	E35.4 iCtrOnBt	Steuerung ein Control on	/72.A4
4.3	E35.5 iCtrOffBt	Steuerung aus Control off	/72.A4
3.4	E35.6		
4.4	E35.7 iTUlk	Werkzeug geloest Tool unlocked	/61.B2

5.1	E36.0		
6.1	E36.1	Ueberwachung, Werkzeugwechslertuer Sicherheitsrelais Monitoring, Tool changer door Safety unit	/44.F3
5.2	E36.2	Werkzeugmagazin Reset Tool magazine Reset	/67.F8
6.2	E36.3 iTlcTlOkLd	Werkzeug korrekt eingelegt Tool correctly inserted	/62.B6
5.3	E36.4 iTlcMagFreLd	Magazinplatz frei (Beladestelle) Magazine place free (Loading position)	/63.C2
6.3	E36.5 iTlcCovOp	Werkzeugwechslerabdeckung, offen Tool changer cover, opened	/62.B3
5.4	E36.6	Werkzeugwechslerabdeckung, geschlossen Tool changer cover, closed	/62.B4
6.4	E36.7 iTlcMagFre1	Magazinplatz frei (Wechselstelle) Magazine place free (Tool change position)	/63.C4
7.1	E37.0 iTlcMagCCWBt	Magazinkette Linkslauf Magazine chain CCW	/67.F7
8.1	E37.1 iTlcMagCWBt	Magazinkette Rechtslauf Magazine chain CW	/67.F8
7.2	E37.2		
8.2	E37.3 iDorTlcCl	Werkzeugwechslertuer, geschlossen Tool changer door, closed	/39.F6
7.3	E37.4 iDorTlcUlkBt	Werkzeugwechslertuer ent-/verriegeln Tool changer door unlock/lock	/68.B3
8.3	E37.5		
7.4	E37.6		
8.4	E37.7 iDrvSpDel	Hauptspindelmotor Dreieckschaltung Main spindle motor Delta connection	/28.F6

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series

Aenderungen / Modifications	Datum / Date	Name / Name					
d			Baureihe / Series 15.3 PickUp	CAD E3	Datum / Date	Name / Name	
c			Ausführung / Mach. type W	Gez./Drawn	30.07.2014	GRUBERB	
b			NC-Typ / Type NC Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM	
a			Antriebe / Drives 400V/HVI	Freig./Approv.	11.11.2016	KEHM	
Ursprung Source	Auftrag / Order 259292	Massstab / Scale	E/A-Module / I/O-Modules Inline modular	Aend.-Nr. / Modific. no.		500000172977	
			Dokument Kunde / Document customer	Inv.-Nr. Kunde / Inv. no. customer			

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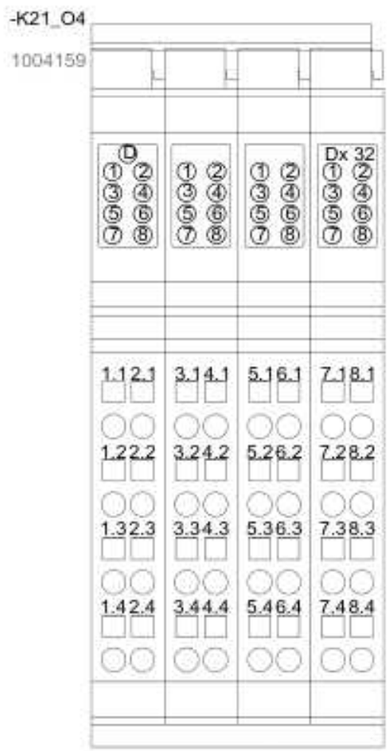
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Eingabebaugruppe I3 E34.0 - E37.7
Input assembly I3 E34.0 - E37.7
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	106
Masch.-Nr./Machine no.		28656



Ausgabebaugruppe O4
Output assembly O4

1.1	A34.0 oLpEnd	Signallampe, Programmende Signal lamp, End of program	/98.A2
2.1	A34.1 oLpErr	Signallampe, Stoerung Signal lamp, Fault	/98.A1
1.2	A34.2 oLpRun	Signallampe, Maschine laeuft Signal lamp, Machine in program	/98.A2
2.2	A34.3		
1.3	A34.4 oDorLckLp	Schutztuer verriegelt Protection door locked	/69.A7
2.3	A34.5 oDorLdOp	Verriegelungsmagnet Beladetuer entriegeln Lockmagnet Loading door unlock	/38.A8
1.4	A34.6 oWpcUlk	Werkstueckwechsler abheben Workpiece changer lift	/78.A2
2.4	A34.7 oWpcLck	Werkstueckwechsler verriegeln Workpiece changer lock	/78.A2
3.1	A35.0 oWpcTbl1	Werkstueckpalette 1 unter Spindel Workpiece pallet 1 below the spindle	/78.A8
4.1	A35.1 oWpcTbl2	Werkstueckpalette 2 unter Spindel Workpiece pallet 2 below the spindle	/78.A8
3.2	A35.2 oCldClp2Lp	Spannvorrichtung gespannt Clamping device locked	/69.A8
4.2	A35.3 oWrkAck2Lp	Werkstueckwechsel quittiert Workpiece swivel confirmed	/69.A8
3.3	A35.4		
4.3	A35.5 oDrvSpDel	Hauptspindelmotor Dreieckschaltung Main spindle motor Delta connection	/28.A8
3.4	A35.6		
4.4	A35.7		

5.1	A36.0		
6.1	A36.1 oDorTlcUlkLp	Werkzeugwechslertuer entriegelt Tool changer door unlocked	/68.A2
5.2	A36.2 oTlcMagCCWLp	Magazinkette Linkslauf Magazine chain CCW	/67.A7
6.2	A36.3 oTlcMagCWLp	Magazinkette Rechtslauf Magazine chain CW	/67.A8
5.3	A36.4 oTlcClcBlow	Werkzeugkegel ausblasen Tool cone blow out	/65.A2
6.3	A36.5 oDorTlcUlk	Werkzeugwechslertuer entriegeln Tool changer door unlock	/39.A4
5.4	A36.6 oTlcCovOp	Werkzeugwechslerabdeckung, oeffnen Tool changer cover, open	/66.A2
6.4	A36.7 oTlcCovCl	Werkzeugwechslerabdeckung, schließen Tool changer cover, close	/66.A3
7.1	A37.0 oTClp	Werkzeug spannen Tool clamp	/65.A3
8.1	A37.1	Werkzeug loesen Tool unclamp	/65.A3
7.2	A37.2 oTUcl		
8.2	A37.3		
7.3	A37.4		
8.3	A37.5		
7.4	A37.6		
8.4	A37.7 oCltVlvMag	Kuehlmittelventil, Werkzeugmagazinspuelung Coolant valve, tool magazine rinsing	/57.A3

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E3 series

Aenderungen / Modifications	Datum / Date	Name / Name				
d			Baureihe / Series 15.3 PickUp	CAD E3	Datum / Date	Name / Name
c			Ausfuehrung / Mach. type W	Gez./Drawn	30.07.2014	GRUBERB
b			NC-Typ / Type NC Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
a			Antriebe / Drives 400V/HVI	Freig./Approv.	11.11.2016	KEHM
			E/A-Module / I/O-Modules Inline modular	Aend.-Nr. / Modific. no.		500000172977
Ursprung Source	Auftrag / Order 259292	Massstab / Scale	Dokument Kunde / Document customer	Inv.-Nr. Kunde / Inv. no. customer		

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Benennung/Title
Ausgabebaugruppe O4 A34.0 - A37.7
Output assembly O4 A34.0 - A37.7
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	107
Masch.-Nr./Machine no.		28656

-K21_P5_0
IB IL 24 PWR IN

1004161

Einspeisklemme P5_0
Power-in terminal P5_0

Anschlussklemme Terminal		Blatt Sheet
1.1	+24V US	/20.A4
1.2	+24V UM	
1.3	⊥	
1.4	⏚	
2.1	+24V US	/20.A5
2.2	+24V UM	
2.3	⊥	
2.4	⏚	

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Änderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		

Ursprung Source

Auftrag / Order 259292

Maßstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977

Dokument Kunde / Document customer

Inv.-Nr. Kunde / Inv. no. customer

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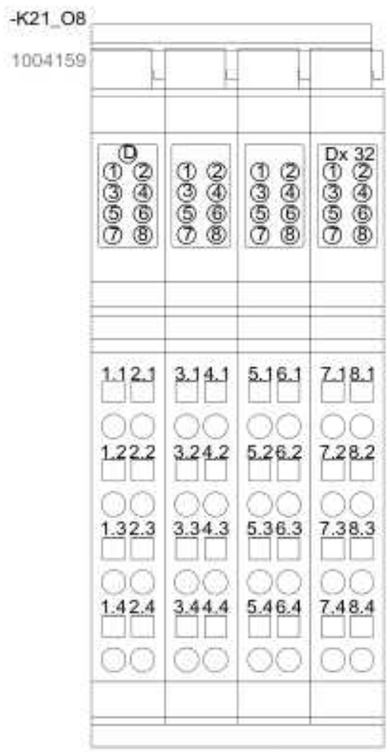
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Einspeisklemme P5_0
Power-in terminal P5_0

Erg.-Benennung/Additional title

Dokument Document	Teil-Dok. Doc.-part	Version Version
3210487	000	01
Status/Status FR	Blatt/Sheet	108
Masch.-Nr./Machine no.		28656



Ausgabebaugruppe O8
Output assembly O8

1.1	A42.0		
2.1	A42.1		
1.2	A42.2 oLubPmpMot	Zentralschmierung Central lubrication	/100.A8
2.2	A42.3		
1.3	A42.4		
2.3	A42.5		
1.4	A42.6		
2.4	A42.7	Absaugung Luft Exhaust air	/60.A8
3.1	A43.0		
4.1	A43.1		
3.2	A43.2		
4.2	A43.3		
3.3	A43.4 oHydVlvUnl	Hydraulik, entsperren Hydraulics, unblock	/87.A4
4.3	A43.5	Spannkreis hydraulisch loesen B1 Clamping circuit hydraulic unclamp B1	/88.A1
3.4	A43.6	Spannkreis hydraulisch spannen A1 Clamping circuit hydraulic clamp A1	/88.A2
4.4	A43.7	Spannkreis hydraulisch loesen B4 Clamping circuit hydraulic unclamp B4	/88.A4

5.1	A44.0	Spannkreis hydraulisch spannen A4 Clamping circuit hydraulic clamp A4	/88.A5
6.1	A44.1 oHydPmp	Hydraulik, Pumpe Hydraulics, pump	/87.A2
5.2	A44.2		
6.2	A44.3		
5.3	A44.4	Klemmung 4. Achse, loesen Clamping 4th Axis, unclamp	/88.A8
6.3	A44.5		
5.4	A44.6		
6.4	A44.7	Klemmung 5. Achse, loesen Clamping 5th Axis, unclamp	/88.A8
7.1	A45.0		
8.1	A45.1		
7.2	A45.2	Spannkreis hydraulisch loesen B3 Clamping circuit hydraulic unclamp B3	/88.A3
8.2	A45.3	Spannkreis hydraulisch spannen A3 Clamping circuit hydraulic clamp A3	/88.A4
7.3	A45.4	Spannkreis hydraulisch loesen B6 Clamping circuit hydraulic unclamp B6	/88.A6
8.3	A45.5	Spannkreis hydraulisch spannen A6 Clamping circuit hydraulic clamp A6	/88.A6
7.4	A45.6		
8.4	A45.7		

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E3 series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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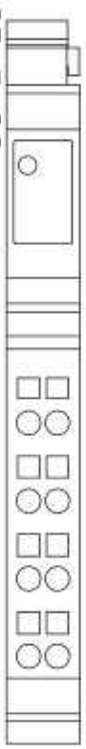
Benennung/Title
Ausgabebaugruppe O8 A42.0 - A45.7
Output assembly O8 A42.0 - A45.7
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	109
Masch.-Nr./Machine no.		28656



Anschlussklemme Terminal		Blatt Sheet
1.1	+24V US	/20.A5
1.2	+24V UM	
1.3	⊥	
1.4	⏚	
2.1	+24V US	
2.2	+24V UM	
2.3	⊥	
2.4	⏚	

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series

Änderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Maßstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
EA-Module / I/O-Modules	Inline modular	Änd.-Nr. / Modific. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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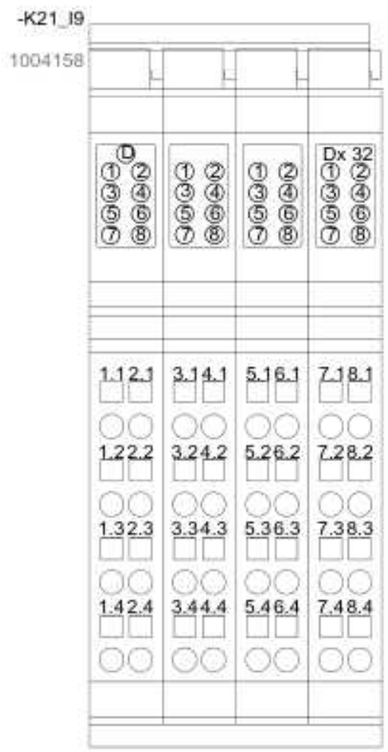
Benennung/Title
Einspeisklemme P9_0
Power-in terminal P9_0
Erg.-Benennung/Additional title

Dokument Document	Teil-Dok. Doc.-part	Version Version
3210487	000	01
Status/Status FR	Blatt/Sheet	110
Masch.-Nr./Machine no.		28656



Eingabebaugruppe I9
Input assembly I9

1.1	E46.0		
2.1	E46.1 iCltFlwInt	Stroemungssensor, Werkzeuginnenkuehlung Flow sensor, coolant through tool	/59.D4
1.2	E46.2	Spannkreis hydraulisch gespannt A1 Clamping circuit hydraulic locked A1	/89.F2
2.2	E46.3	Spannkreis hydraulisch gespannt A4 Clamping circuit hydraulic locked A4	/89.F5
1.3	E46.4		
2.3	E46.5 iHydTmp	Hydraulik, Temperatur OK Hydraulics, temperature OK	/89.F1
1.4	E46.6 iHydMin	Hydraulik, Fuellstand OK Hydraulics, filling level OK	/89.F2
2.4	E46.7 iHydFlt	Hydraulik, Filter OK Hydraulics, filter OK	/89.F2
3.1	E47.0	Spannkreis hydraulisch geloest B1 Clamping circuit hydraulic unlocked B1	/89.F3
4.1	E47.1	Spannkreis hydraulisch geloest B4 Clamping circuit hydraulic unlocked B4	/89.F5
3.2	E47.2 iLubContLvl	Oelstand Zentralschmierung Oil level Central lubrication	/100.F4
4.2	E47.3 iLubCycSwi	Betriebsdruck Zentralschmierung Operating pressure Central lubrication	/100.F4
3.3	E47.4 iFauExhFan	Absaugung Luft, OK Air suctioning, OK	/60.F5
4.3	E47.5		
3.4	E47.6		
4.4	E47.7	Zweihandstartausloesung 1 Two hand push button start 1	/99.C6

5.1	E48.0		
6.1	E48.1		
5.2	E48.2		
6.2	E48.3	Schutztuer links, geoeffnet Left protective door open	/47.F4
5.3	E48.4	Schutztuer rechts, geoeffnet Right protective door open	/47.F7
6.3	E48.5		
5.4	E48.6		
6.4	E48.7		
7.1	E49.0		
8.1	E49.1		
7.2	E49.2		
8.2	E49.3		
7.3	E49.4		
8.3	E49.5		
7.4	E49.6	PMM betriebsbereit PMM operational	/45.F4
8.4	E49.7		

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E3 series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausfuehrung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31I B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
EA-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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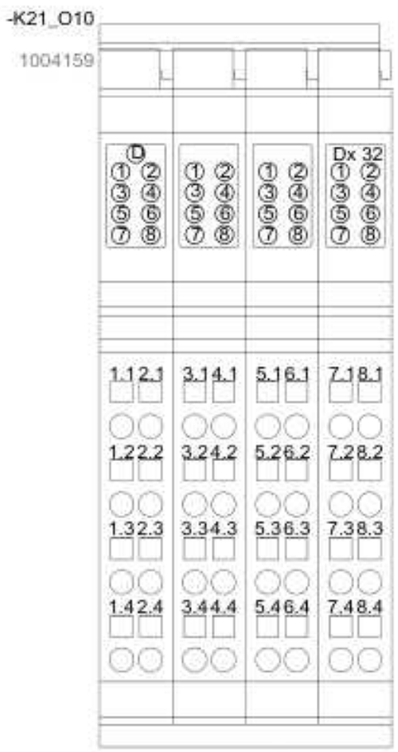
Benennung/Title
Eingabebaugruppe I9 E46.0 - E49.7
Input assembly I9 E46.0 - E49.7
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	111
Masch.-Nr./Machine no.		28656



Ausgabebaugruppe O10
Output assembly O10

1.1	A46.0		
2.1	A46.1		
1.2	A46.2		
2.2	A46.3 oPrbTblBlw	Tischmesstaster abblasen Blow off table probe	/96.A2
1.3	A46.4 oPrbTblEn	Freigabe Tischmesstaster Table probe enable	/96.A8
2.3	A46.5		
1.4	A46.6		
2.4	A46.7		
3.1	A47.0		
4.1	A47.1 oCltFlsCld2	Kuehlmittelventil, Vorrichtungsspuelung 2 Coolant valve, device rinsing 2	/57.A7
3.2	A47.2 oCltFlsCld	Kuehlmittelventil, Vorrichtungsspuelung Coolant valve, device rinsing	/57.A5
4.2	A47.3		
3.3	A47.4		
4.3	A47.5		
3.4	A47.6		
4.4	A47.7		

5.1	A48.0		
6.1	A48.1		
5.2	A48.2		
6.2	A48.3		
5.3	A48.4		
6.3	A48.5		
5.4	A48.6		
6.4	A48.7		
7.1	A49.0		
8.1	A49.1		
7.2	A49.2		
8.2	A49.3		
7.3	A49.4		
8.3	A49.5		
7.4	A49.6		
8.4	A49.7		

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E3 series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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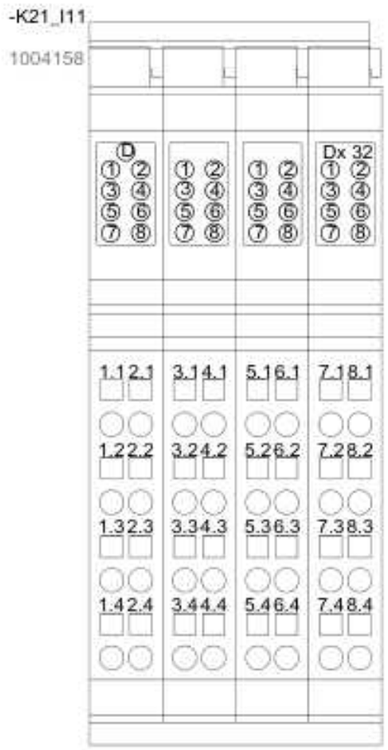
Benennung/Title
Ausgabebaugruppe O10 A46.0 - A49.7
Output assembly O10 A46.0 - A49.7
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	112
Masch.-Nr./Machine no.		28656



Eingabebaugruppe I11
Input assembly I11

1.1	E50.0	4. Achse geklemmt 4th Axis clamped	/89.F8
2.1	E50.1		
1.2	E50.2		
2.2	E50.3	5. Achse geklemmt 5th Axis clamped	/89.F8
1.3	E50.4		
2.3	E50.5		
1.4	E50.6		
2.4	E50.7		
3.1	E51.0		
4.1	E51.1		
3.2	E51.2		
4.2	E51.3		
3.3	E51.4		
4.3	E51.5		
3.4	E51.6		
4.4	E51.7		

5.1	E52.0		
6.1	E52.1		
5.2	E52.2		
6.2	E52.3		
5.3	E52.4		
6.3	E52.5		
5.4	E52.6		
6.4	E52.7		
7.1	E53.0		
8.1	E53.1 iAxsLdBt	Rundtisch drehen Turn rotary table	/69.F7
7.2	E53.2 iCldClpUclBt	Spannvorrichtung spannen/loesen Clamping device clamp/unclamp	/69.F8
8.2	E53.3 iDorOpClBt	Schutztuer oeffnen/schließen Protection door open/close	/69.F7
7.3	E53.4		
8.3	E53.5		
7.4	E53.6		
8.4	E53.7		

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E3 series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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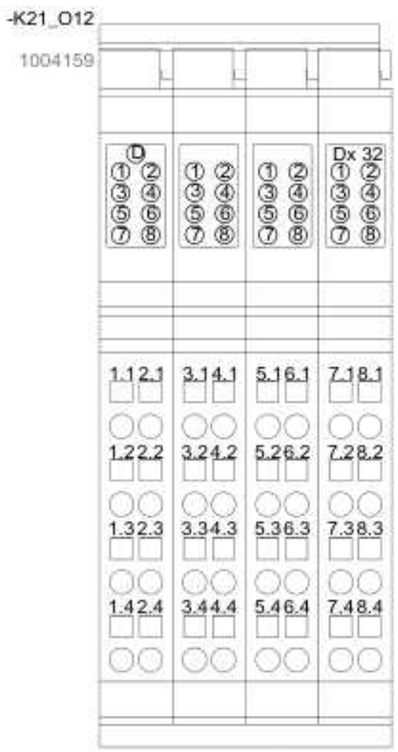
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Eingabebaugruppe I11 E50.0 - E53.7
Input assembly I11 E50.0 - E53.7
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	113
Masch.-Nr./Machine no.		28656



Ausgabebaugruppe O12
Output assembly O12

1.1	A50.0		
2.1	A50.1		
1.2	A50.2		
2.2	A50.3		
1.3	A50.4		
2.3	A50.5		
1.4	A50.6		
2.4	A50.7		
3.1	A51.0		
4.1	A51.1		
3.2	A51.2		
4.2	A51.3		
3.3	A51.4	Lader, aktiv Loader, active	/76.A5
4.3	A51.5		
3.4	A51.6		
4.4	A51.7		

5.1	A52.0		
6.1	A52.1	Visiport rechts, ein Visiport right, on	/48.A8
5.2	A52.2		
6.2	A52.3		
5.3	A52.4		
6.3	A52.5		
5.4	A52.6		
6.4	A52.7		
7.1	A53.0		
8.1	A53.1		
7.2	A53.2		
8.2	A53.3		
7.3	A53.4		
8.3	A53.5		
7.4	A53.6		
8.4	A53.7		

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E3 series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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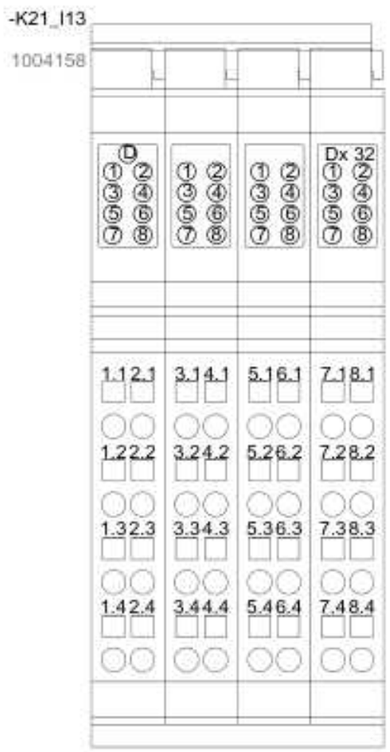
Benennung/Title
Ausgabebaugruppe O12 A50.0 - A53.7
Output assembly O12 A50.0 - A53.7
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	114
Masch.-Nr./Machine no.		28656



Eingabebaugruppe I13
Input assembly I13

1.1	E54.0		
2.1	E54.1		
1.2	E54.2		
2.2	E54.3		
1.3	E54.4		
2.3	E54.5		
1.4	E54.6		
2.4	E54.7		
3.1	E55.0		
4.1	E55.1		
3.2	E55.2		
4.2	E55.3		
3.3	E55.4		
4.3	E55.5		
3.4	E55.6		
4.4	E55.7		

5.1	E56.0	Auflagenkontrolle grob 1 Positioning control grit 1	/93.E6
6.1	E56.1	Auflagenkontrolle fein 1 Positioning control fine 1	/93.E6
5.2	E56.2	Auflagenkontrolle grob 1 Positioning control grit 1	/94.E6
6.2	E56.3	Auflagenkontrolle fein 1 Positioning control fine 1	/94.E6
5.3	E56.4	Auflagenkontrolle grob 2 Positioning control grit 2	/93.E6
6.3	E56.5	Auflagenkontrolle fein 2 Positioning control fine 2	/93.E7
5.4	E56.6	Auflagenkontrolle grob 3 Positioning control grit 3	/93.E7
6.4	E56.7	Auflagenkontrolle fein 3 Positioning control fine 3	/93.E7
7.1	E57.0	Auflagenkontrolle grob 4 Positioning control grit 4	/93.E8
8.1	E57.1	Auflagenkontrolle fein 4 Positioning control fine 4	/93.E8
7.2	E57.2	Auflagenkontrolle grob 2 Positioning control grit 2	/94.E6
8.2	E57.3	Auflagenkontrolle fein 2 Positioning control fine 2	/94.E7
7.3	E57.4	Auflagenkontrolle grob 3 Positioning control grit 3	/94.E7
8.3	E57.5	Auflagenkontrolle fein 3 Positioning control fine 3	/94.E7
7.4	E57.6	Auflagenkontrolle grob 4 Positioning control grit 4	/94.E8
8.4	E57.7	Auflagenkontrolle fein 4 Positioning control fine 4	/94.E8

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E3 series

Änderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Maßstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31I B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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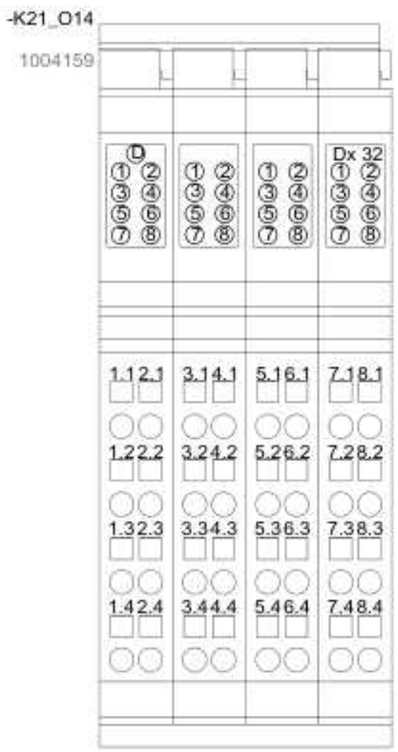
Benennung/Title
Eingabebaugruppe I13 E54.0 - E57.7
Input assembly I13 E54.0 - E57.7
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	115
Masch.-Nr./Machine no.		28656



Ausgabebaugruppe O14
Output assembly O14

1.1	A54.0	Spannkreis pneumatisch loesen B1 Clamping circuit pneumatic unclamp B1	/90.A2
2.1	A54.1	Spannkreis pneumatisch spannen A1 Clamping circuit pneumatic clamp A1	/90.A3
1.2	A54.2		
2.2	A54.3		
1.3	A54.4		
2.3	A54.5		
1.4	A54.6		
2.4	A54.7		
3.1	A55.0	Sperrluftfilter leeren Werkstueckeinlegekontrolle Blocking air filter deplete Workpiece position control	/95.A4
4.1	A55.1	Absperrventil Einlegekontrolle Shut off valve position control	/95.A5
3.2	A55.2	Auflagenkontrolle 1 Positioning control 1	/71.A6
4.2	A55.3	Auflagenkontrolle 2 Positioning control 2	/71.A7
3.3	A55.4	Auflagenkontrolle 3 Positioning control 3	/71.A7
4.3	A55.5	Auflagenkontrolle 4 Positioning control 4	/71.A8
3.4	A55.6		
4.4	A55.7		

5.1	A56.0	Spannkreis hydraulisch loesen B2 Clamping circuit hydraulic unclamp B2	/88.A2
6.1	A56.1	Spannkreis hydraulisch spannen A2 Clamping circuit hydraulic clamp A2	/88.A3
5.2	A56.2	Spannkreis hydraulisch loesen B5 Clamping circuit hydraulic unclamp B5	/88.A5
6.2	A56.3	Spannkreis hydraulisch spannen A5 Clamping circuit hydraulic clamp A5	/88.A5
5.3	A56.4		
6.3	A56.5	Druckumschaltung Q2.1 Pressure switching Q2.1	/88.A7
5.4	A56.6		
6.4	A56.7	Druckumschaltung Q5.1 Pressure switching Q5.1	/88.A7
7.1	A57.0		
8.1	A57.1		
7.2	A57.2		
8.2	A57.3		
7.3	A57.4		
8.3	A57.5		
7.4	A57.6		
8.4	A57.7		

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E3 series

Aenderungen / Modifications	Datum / Date	Name / Name				
d			Baureihe / Series 15.3 PickUp	CAD E3	Datum / Date	Name / Name
c			Ausfuehrung / Mech. type W	Gez./Drawn	30.07.2014	GRUBERB
b			NC-Typ / Type NC Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
a			Antriebe / Drives 400V/HVI	Freig./Approv.	11.11.2016	KEHM
			E/A-Module / I/O-Modules Inline modular	Aend.-Nr. / Modific. no.		500000172977
Ursprung Source	Auftrag / Order 259292	Massstab / Scale	Dokument Kunde / Document customer	Inv.-Nr. Kunde / Inv. no. customer		

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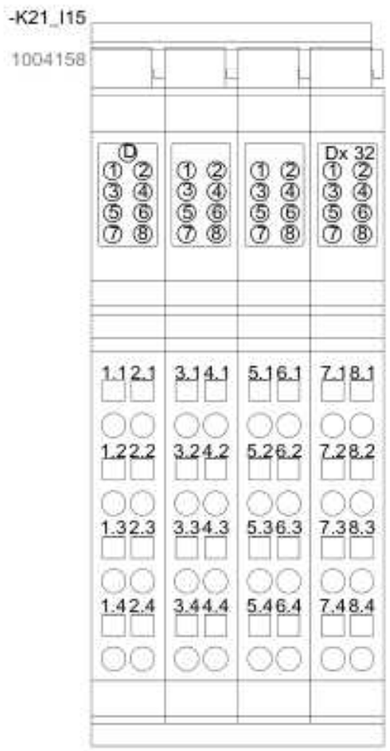
Benennung/Title
Ausgabebaugruppe O14 A54.0 - A57.7
Output assembly O14 A54.0 - A57.7
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	116
Masch.-Nr./Machine no.		28656



Eingabebaugruppe I15
Input assembly I15

1.1	E58.0	Grundposition TS1 Home position TS1	/91.F4
2.1	E58.1	Arbeitsposition TS1	/91.F4
1.2	E58.2	Grundposition TS2 Home position TS2	/91.F5
2.2	E58.3	Spannkreis hydraulisch gespannt A3 Clamping circuit hydraulic locked A3	/89.F5
1.3	E58.4	Spannkreis hydraulisch gespannt A6 Clamping circuit hydraulic locked A6	/89.F7
2.3	E58.5	Arbeitsposition TS2	/91.F5
1.4	E58.6		
2.4	E58.7		
3.1	E59.0		
4.1	E59.1		
3.2	E59.2	Andrueckeinheit oben Pressing unit on top	/92.F7
4.2	E59.3	Andrueckeinheit unten Pressing unit at bottom	/92.F7
3.3	E59.4		
4.3	E59.5		
3.4	E59.6	Spannkreis pneumatisch geloest B1 Clamping circuit pneumatic unlocked B1	/90.B5
4.4	E59.7	Spannkreis pneumatisch gespannt A1 Clamping circuit pneumatic locked A1	/90.B6

5.1	E60.0	Spannkreis hydraulisch geloest B2 (Niederdruck 25bar BB2) Clamping circuit hydraulic unlocked B2 (Low pressure 25bar BB2)	/89.F3
6.1	E60.1	Spannkreis hydraulisch gespannt A2 (Niederdruck 25bar BA2) Clamping circuit hydraulic locked A2 (Low pressure 25bar BA2)	/89.F3
5.2	E60.2	Spannkreis hydraulisch geloest B5 (Niederdruck 25bar BB5) Clamping circuit hydraulic unlocked B5 (Low pressure 25bar BB5)	/89.F6
6.2	E60.3	Spannkreis hydraulisch gespannt A5 (Niederdruck 25bar BA5) Clamping circuit hydraulic locked A5 (Low pressure 25bar BA5)	/89.F6
5.3	E60.4	Spannkreis hydraulisch geloest B2 (Hochdruck 90bar BB2) Clamping circuit hydraulic unlocked B2 (High pressure 90bar BB2)	/89.F4
6.3	E60.5	Spannkreis hydraulisch gespannt A2 (Hochdruck 90bar BA2) Clamping circuit hydraulic locked A2 (High pressure 90bar BA2)	/89.F4
5.4	E60.6	Spannkreis hydraulisch geloest B5 (Hochdruck 90bar BB5) Clamping circuit hydraulic unlocked B5 (High pressure 90bar BB5)	/89.F7
6.4	E60.7	Spannkreis hydraulisch gespannt A5 (Hochdruck 90bar BA5) Clamping circuit hydraulic locked A5 (High pressure 90bar BA5)	/89.F7
7.1	E61.0		
8.1	E61.1		
7.2	E61.2		
8.2	E61.3		
7.3	E61.4		
8.3	E61.5		
7.4	E61.6		
8.4	E61.7		

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e3 series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausfuehrung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
EA-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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Benennung/Title
Eingabebaugruppe I15 E58.0 - E61.7
Input assembly I15 E58.0 - E61.7
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	117
Masch.-Nr./Machine no.		28656

-K21_P_A1
IB IL 24 PWR IN
1004161

Einspeisklemme P20_0
Power-in terminal P20_0

Anschlussklemme Terminal		Blatt Sheet
1.1	+24V US	/20.D4
1.2	+24V UM	
1.3	⊥	
1.4	⏚	
2.1	+24V US	/64.A4
2.2	+24V UM	
2.3	⊥	
2.4	⏚	

-K21_AI1
IB IL AI 2/SF-PAC
1004160

Analogeingabeklemme I20
Analog input terminal I20

Eingaenge Inputs				Blatt Sheet
PEW188	Werkzeug gespannt Tool locked			/64.A5
1.1 Eingang U [V] 1.1 Input U [V]	1.2 Eingang I [mA] 1.2 Input I [mA]	1.3 ⊥	1.4 Schirm 1.4 Shield	
PEW190				
2.1 Eingang U [V] 2.1 Input U [V]	2.2 Eingang I [mA] 2.2 Input I [mA]	2.3 ⊥	2.4 Schirm 2.4 Shield	

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E3 series

Aenderungen / Modifications	Datum / Date	Name / Name					
d			Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
c			Ausführung / Mech. type	W	Gez./Drawn	30.07.2014	GRUBERB
b			NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
a			Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
			E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Ursprung Source	Auftrag / Order 259292	Maesstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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Benennung/Title
Einspeisklemme / Analogeingabeklemme AI1
Power-in terminal / Analog input terminal AI1

Ers.-Benennung/Additional title

Dokument Document	Teil-Dok. Doc.-part	Version Version
3210487	000	01
Status/Status FR	Blatt/Sheet	118
Masch.-Nr./Machine no.		28656

-K28
1397018

T1:00	Y08.0	Not-Halt,in Ordnung & Steuerung ein Emergency stop,OK & Control on	/42.A2
T1:02	Y08.2		
T1:04	Y08.4	Schutztuer, Ueberwachung in Ordnung Protection door, Controle OK	/42.A6
T1:06	Y08.6	Beladetueren, Schutzeinrichtung in Ordnung Loading doors, Safety equipment OK	/44.A3
T1:10	Y09.0	Werkzeugwechslertuer, Schutzeinrichtung in Ordnung Tool changer door, Safety equipment OK	/44.A2
T1:12	Y09.2		
T1:14	Y09.4		
T1:16	Y09.6		

T2:01	Y08.1	Bremse loesen: Z-Achse Brake unclamp: Z-Axis	/22.A3
T2:03	Y08.3	Stromversorgung Antrieb Power supply Drive	/26.C3
T2:05	Y08.5	Not-Halt,in Ordnung & Steuerung ein (Abfallverzoegerung) Emergency stop,OK & Control on (Delayed release)	/42.A4
T2:07	Y08.7	Not-Halt PMC Emergency stop PMC	/43.A8
T2:11	Y09.1		
T2:13	Y09.3		
T2:15	Y09.5		
T2:17	Y09.7		

T3:00	X08.0		
T3:02	X08.2	Zustimmtaste Kommandopult Door bypass button Control panel	/40.F1
T3:04	X08.4	Not-Halt PMC Emergency stop PMC	/43.F8
T3:06	X08.6	Zustimmtaste Werkzeugmagazin Door bypass button Tool magazine	/40.F5
T3:10	X09.0		
T3:12	X09.2	Beladetueren geschlossen und verriegelt Loading doors closed and locked	/41.F5
T3:14	X09.4	Einrichtbetrieb (MSO 2) Setting mode (MSO 2)	/75.A2
T3:16	X09.6		
T3:20	X10.0	Werkstueckpalette 1 unter Spindel Workpiece pallet 1 below the spindle	/78.F5
T3:22	X10.2	Ueberwachung,Leistungschuetz Stromversorgung Antrieb Monitoring,Contactor Power supply Drive	/36.F2
T3:24	X10.4		
T3:26	X10.6	Lader, aktiv Loader, active	/76.A3

T4:01	X08.1		
T4:03	X08.3	Zustimmtaste Handrad Door bypass button Manual pulse generator	/40.F3
T4:05	X08.5	Werkzeugwechslertuer, geschlossen und verriegelt Tool changer door, closed and locked	/40.F4
T4:07	X08.7	NOT-HALT-Tasten in Ordnung Emergency stop button OK	/23.F7
T4:11	X09.1	Schutztuer rechts, geschlossen und verriegelt Protection door right, closed and locked	/41.F2
T4:13	X09.3	Automatischer Betrieb (MSO 1) Automatic mode (MSO 1)	/75.A1
T4:15	X09.5		
T4:17	X09.7	Servicebetrieb (MSO SE) Service mode (MSO SE)	/75.F8
T4:21	X10.1	Werkstueckpalette 2 unter Spindel Workpiece pallet 2 below the spindle	/78.F6
T4:23	X10.3		
T4:25	X10.5		
T4:27	X10.7	Lader, Schutzzaun geschlossen Loader, Safety fence closed	/102.F2

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E3 series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Ein-/Ausgabe-Baugruppe DCS PMC1
Input/output assembly DCS PMC1
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet 119	
Masch.-Nr./Machine no. 28656		

-K29
1397018

T1:00	YS08.0	Not-Halt,in Ordnung Emergency stop,OK	/43.A6
T1:02	YS08.2		
T1:04	YS08.4	Schutztuer, Ueberwachung in Ordnung Protection door, Controle OK	/43.A7
T1:06	YS08.6	Beladeseite, Schutzeinrichtung in Ordnung Loading side, Safety equipment OK	/44.A7
T1:10	YS09.0	Werkzeugwechslertuer, Schutzeinrichtung in Ordnung Tool changer door, Safety equipment OK	/44.A8
T1:12	YS09.2		
T1:14	YS09.4		
T1:16	YS09.6		
T3:00	XS08.0		
T3:02	XS08.2	Zustimmtaste Kommandopult Door bypass button Control panel	/40.F2
T3:04	XS08.4	Not-Halt PMC Emergency stop PMC	/43.F8
T3:06	XS08.6	Zustimmtaste Werkzeugmagazin Door bypass button Tool magazine	/40.F6
T3:10	XS09.0		
T3:12	XS09.2	Beladetueren geschlossen und verriegelt Loading doors closed and locked	/41.F5
T3:14	XS09.4	Einrichtbetrieb (MSO 2) Setting mode (MSO 2)	/75.A4
T3:16	XS09.6		
T3:20	XS10.0	Werkstueckpalette 1 unter Spindel Workpiece pallet 1 below the spindle	/78.F6
T3:22	XS10.2	Hauptspindelantrieb nicht in Regelung Main spindle drive not in control	/36.F4
T3:24	XS10.4		
T3:26	XS10.6	Lader, aktiv Loader, active	/76.A3

T2:01	YS08.1	Bremse loesen: Z-Achse Brake unclamp: Z-Axis	/22.A4
T2:03	YS08.3	Stromversorgung Antrieb Power supply Drive	/26.C3
T2:05	YS08.5	Not-Halt,in Ordnung & Steuerung ein (Abfallverzoegerung) Emergency stop,OK & Control on (Delayed release)	/43.A7
T2:07	YS08.7	Not-Halt PMC Emergency stop PMC	/43.A8
T2:11	YS09.1		
T2:13	YS09.3		
T2:15	YS09.5		
T2:17	YS09.7		
T4:01	XS08.1		
T4:03	XS08.3	Zustimmtaste Handrad Door bypass button Manual pulse generator	/40.F3
T4:05	XS08.5	Werkzeugwechslertuer, geschlossen und verriegelt Tool changer door, closed and locked	/40.F4
T4:07	XS08.7	NOT-HALT-Tasten in Ordnung Emergency stop button OK	/23.F8
T4:11	XS09.1	Schutztuer rechts, geschlossen und verriegelt Protection door right, closed and locked	/41.F2
T4:13	XS09.3	Automatischer Betrieb (MSO 1) Automatic mode (MSO 1)	/75.A4
T4:15	XS09.5		
T4:17	XS09.7	Servicebetrieb (MSO SE) Service mode (MSO SE)	/75.F8
T4:21	XS10.1	Werkstueckpalette 2 unter Spindel Workpiece pallet 2 below the spindle	/78.F7
T4:23	XS10.3		
T4:25	XS10.5		
T4:27	XS10.7	Lader, Schutzzaun geschlossen Loader, Safety fence closed	/102.F2

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E3 series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausfuehrung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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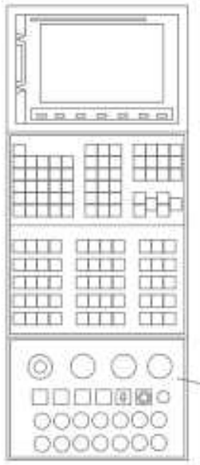
Benennung/Title
Ein-/Ausgabe-Baugruppe DCS PMC2
Input/output assembly DCS PMC2
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet 120	
Masch.-Nr./Machine no. 28656		



-A25

1038706.6
1041628.1

S98
Not-Halt
Emergency stop

-S53

-S58
Vorschubkorrektur
Feed override

-S59
Spindeldrehzahlkorrektur
Spindle speed correction

P84
ROBOT

S174

S79
Off

S78
On

S81
NC ON

-S49

S94
(1)
TOOL UNLOCK
Werkzeug loesen
Tool unclamp

S307
DOOR BYPASS
Zustimmtaste
Door bypass button

S444
HOME BUTTON
Grundposition
Home position

S390
Werkzeugwechslertuer, entriegeln
Tool changer door unlock

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series

	Aenderungen / Modifications	Datum / Date	Name / Name						
d				Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name	
c				Ausführung / Mech. type	W	Gez./Drawn	30.07.2014	GRUBERB	
b				NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM	
a				Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM	
				EA-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977	
Ursprung Source		Auftrag / Order 259292	Massstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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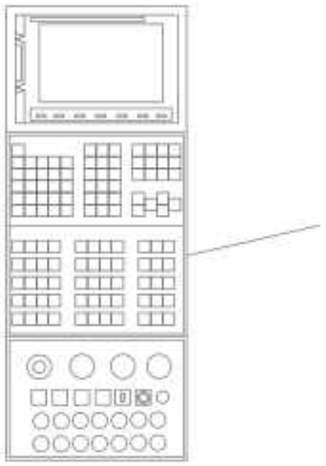
Benennung/Title
Maschinensteuertafel Fanuc 10"
Machine panel Fanuc 10"

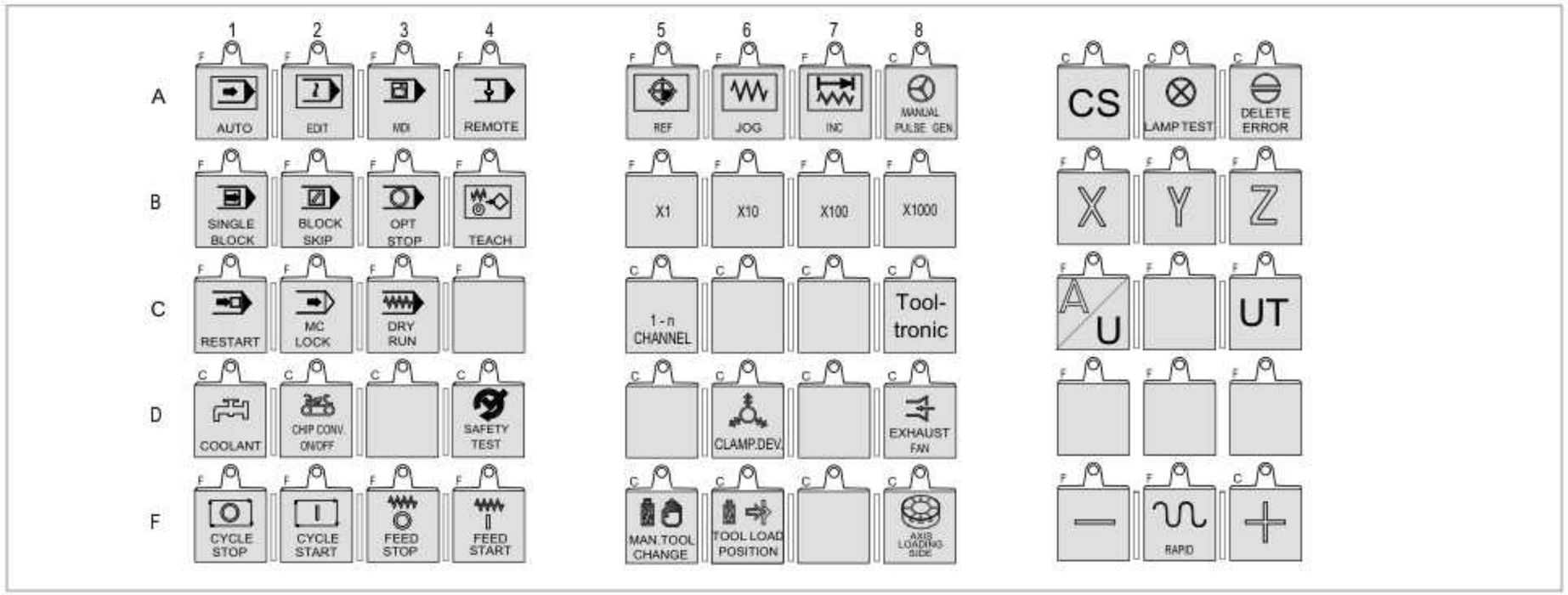
Erg.-Benennung/Additional title

Dokument Document	Teil-Dok. Doc.-part	Version Version
3210487	000	01
Status/Status FR	Blatt/Sheet	121
Masch.-Nr./Machine no.		28656

-S102

1434397
Tastenschild
Button plate





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	Aenderungen / Modifications	Datum / Date	Name / Name						
d				Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name	
c				Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB	
b				NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM	
a				Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM	
				E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977	
Ursprung Source		Auftrag / Order 259292	Maasstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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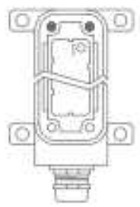
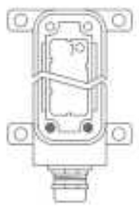
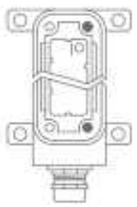
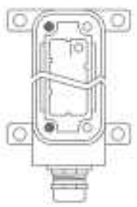
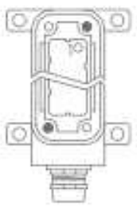
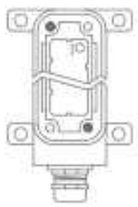
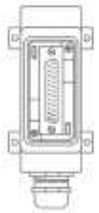
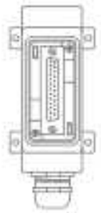
Benennung/Title
Tastaturbelegung Fanuc 10"
Keyboard layout Fanuc 10"
Ers.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	122
Masch.-Nr./Machine no.		28656

Steckercodierung Plug coding	A	B	C	D	E	F	A	B
Anbaugehaeuse Sockelgehaeuse Houstings bulkhead mounting Housings surface mounting								
Tuellengehaeuse Hoods side-entry								

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e3 series

Aenderungen / Modifications	Datum / Date	Name / Name
d		
c		
b		
a		
Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausfuehrung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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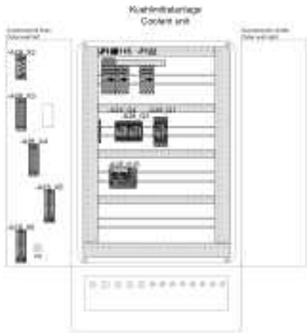
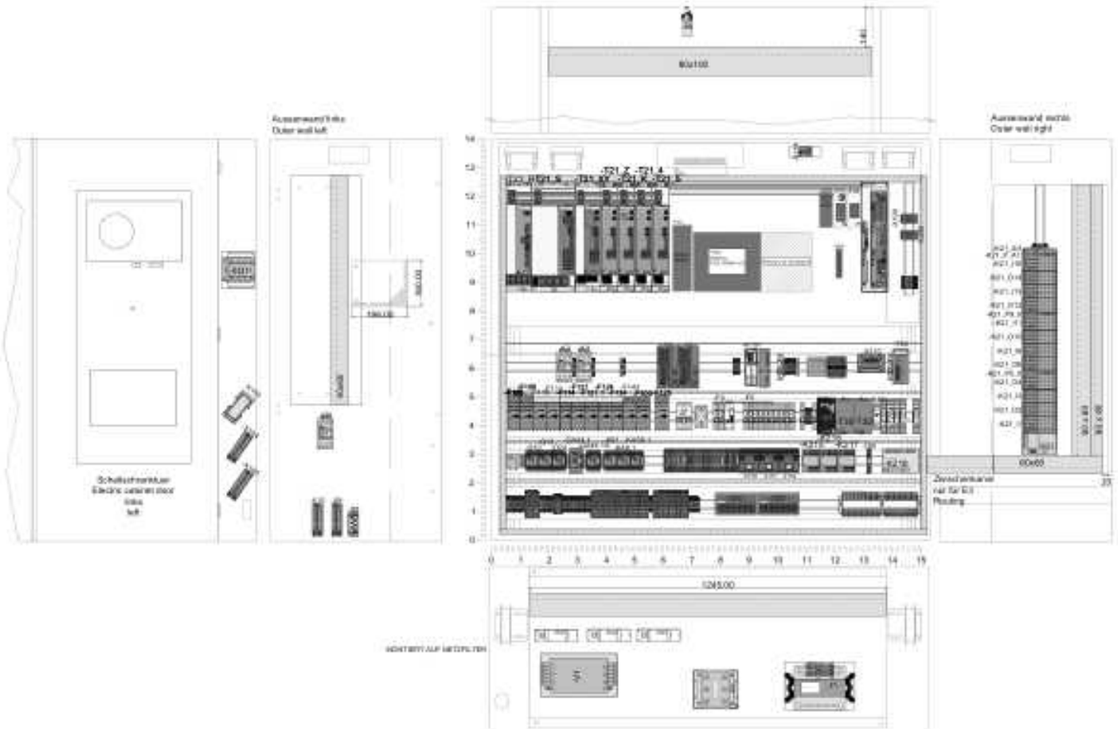
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Steckercodierung
Plug coding
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	123
Masch.-Nr./Machine no.		28656





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E3 series

	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			

Ursprung Source

Auftrag / Order: 234202

Maesstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausfuehrung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977

Dokument Kunde / Document customer

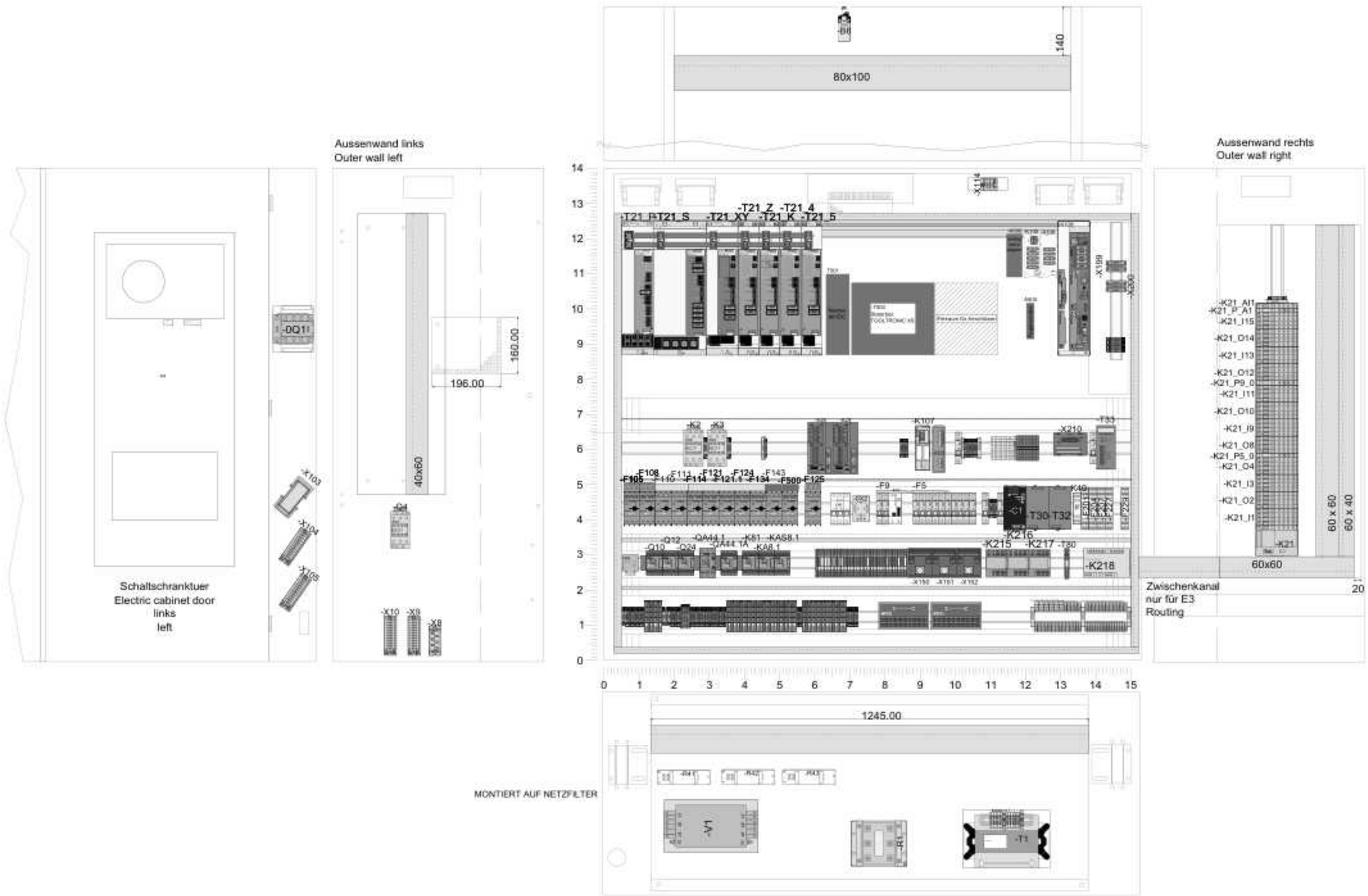
Inv.-Nr. Kunde / Inv. no. customer

CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Schaltschrankaufbau
Electric cabinet structure

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status: FR	Blatt/Sheet: 124	
Masch.-Nr./Machine no.: 28656		



	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			

Ursprung Source

Auftrag / Order 234202

Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mech. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aenr.-Nr. / Modific. no.			500000172977

Dokument Kunde / Document customer

Inv.-Nr. Kunde / Inv. no. customer

CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Schaltschrankaufbau
Electric cabinet structure

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	125
Masch.-Nr./Machine no.		28656

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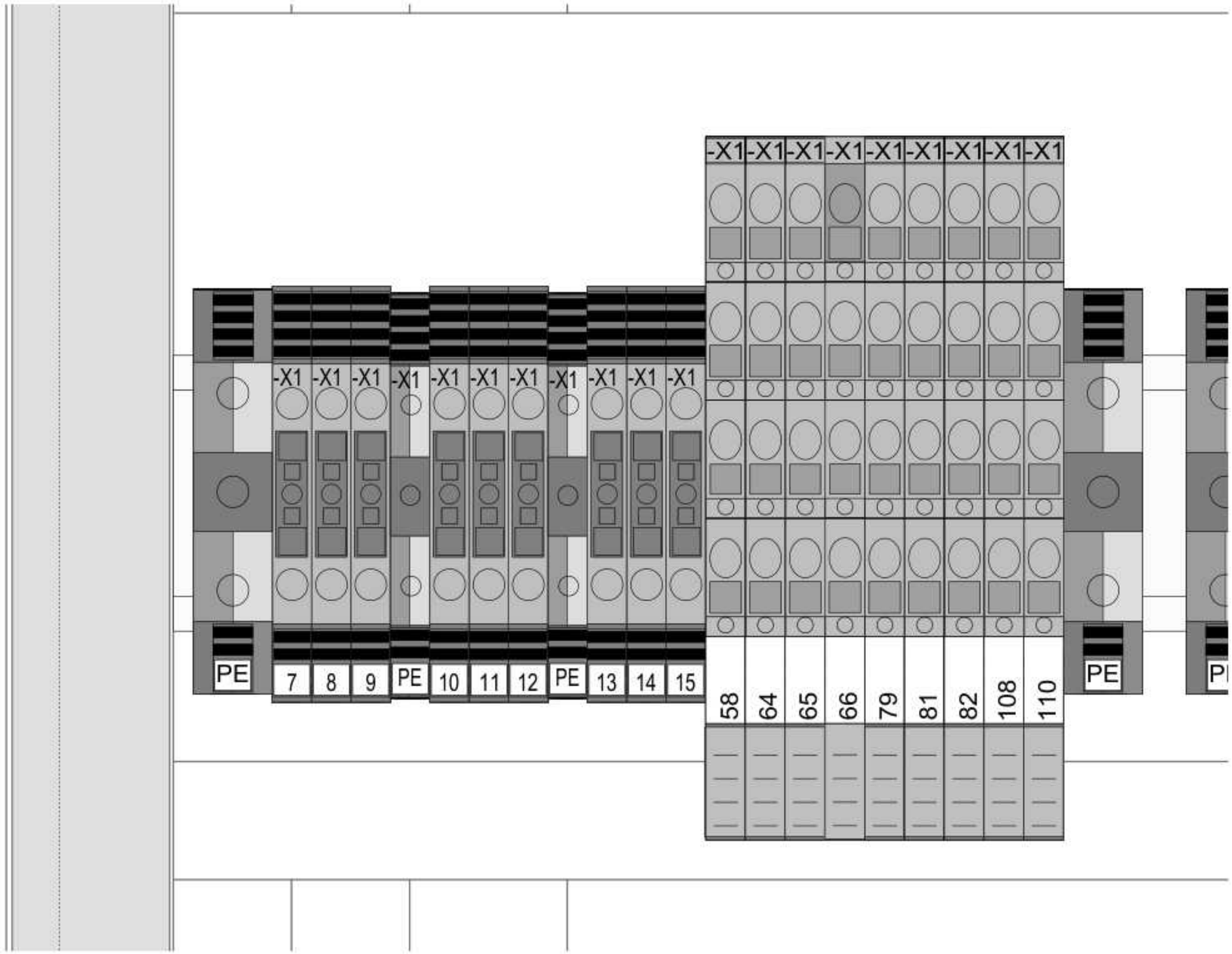
E3 series



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series

	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			
Ursprung Source		Auftrag / Order 234202	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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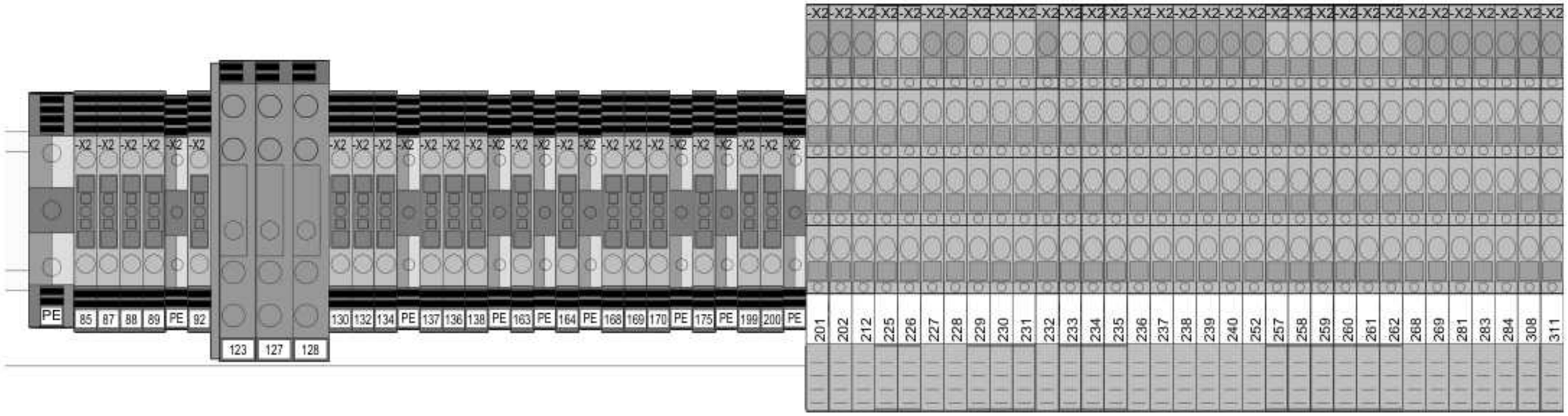
Benennung/Title
Klemmenleiste X1
Terminal strip X1

Ers.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	126
Masch.-Nr./Machine no.		28656



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e3 series

	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			

Ursprung Source

Auftrag / Order 234202

Maesstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausfuehrung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977

Dokument Kunde / Document customer

Inv.-Nr. Kunde / Inv. no. customer

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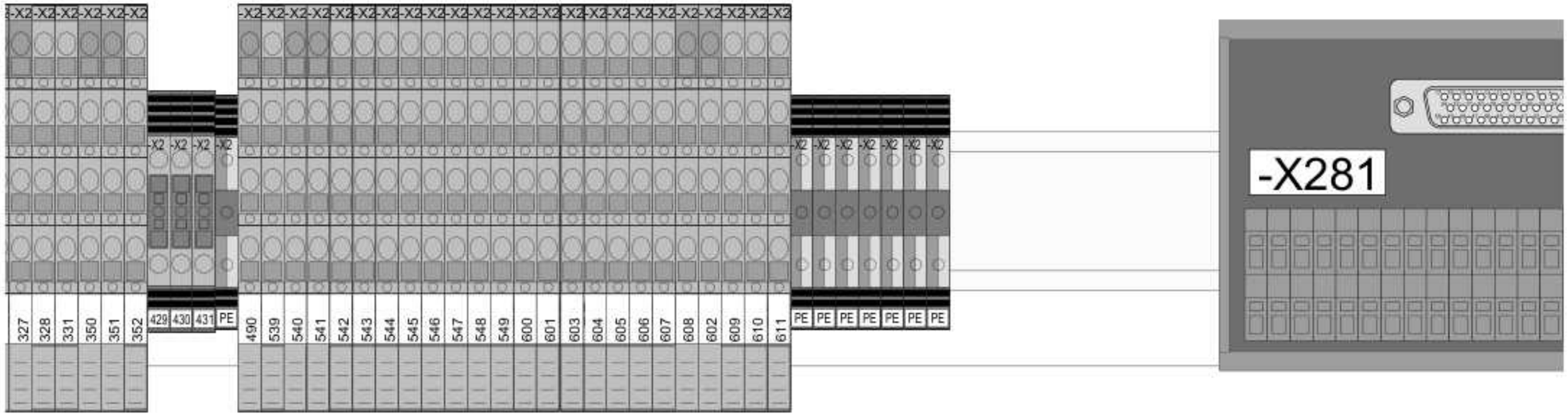
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Klemmenleiste X2
Terminal strip X2

Ers.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	127
Masch.-Nr./Machine no.		28656



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	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			

Ursprung Source

Auftrag / Order 234202

Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modifs. no.			500000172977

Dokument Kunde / Document customer

Inv.-Nr. Kunde / Inv. no. customer

CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

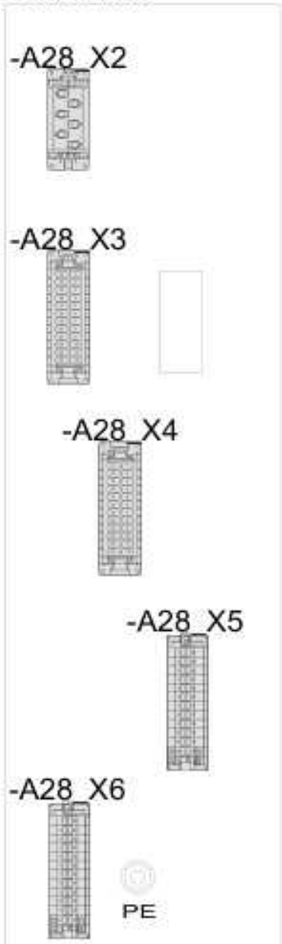
Benennung/Title
Klemmenleiste X2
Terminal strip X2

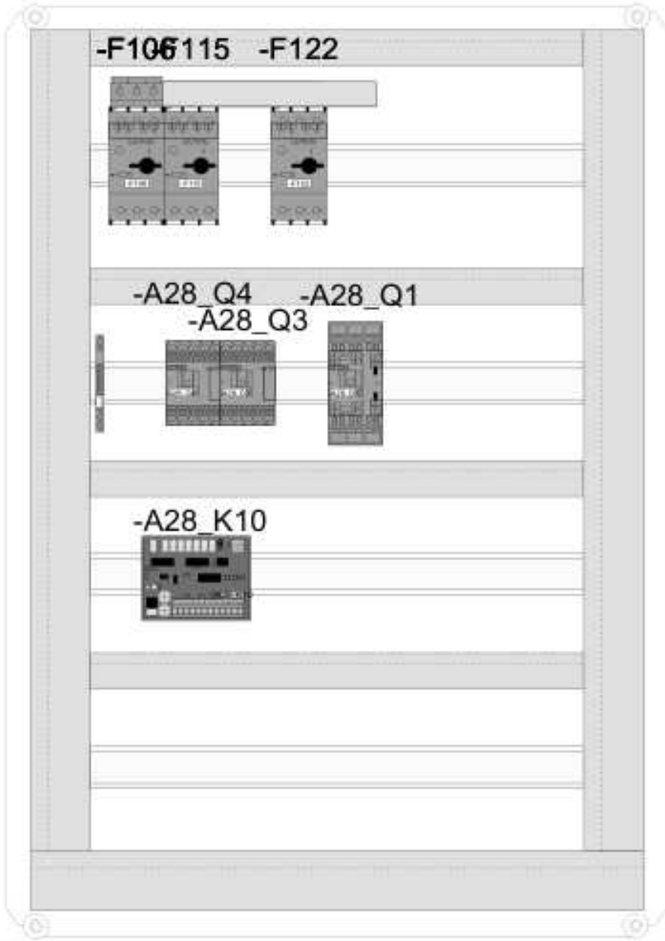
Ers.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	128
Masch.-Nr./Machine no.		28656

Kuehlmittelanlage
Coolant unit

Aussenwand links
Outer wall left





Aussenwand rechts
Outer wall right

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E3 series

	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			
Ursprung Source		Auftrag / Order 234202	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.		500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer		

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Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title: Schaltschrankaufbau Kuehlmittelanlage
Electric cabinet structure Coolant unit

Ers.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	129
Masch.-Nr./Machine no.		28656

-Q61_W1 /57.E2 1453276 — 0,5 mm² — 5 m
1. Kuehlmittelventil
1st Coolant valve

-Q23_W1 X49 /65.D2 1445137 — 0,75 mm² — 8,5 m — Q23
Werkzeugkegel ausblasen
Tool cone blow out

-Q26_W1 X49 /65.D3 1445136 — 0,75 mm² — 9 m — Q26
Werkzeug loesen
Tool unclamp

-Q27_W1 X49 /65.D3 1445030 — 0,75 mm² — 9 m — Q27
Werkzeug spannen
Tool clamp

-B115_W1 X49 /61.D2 1445400 — 0,34 mm² — 8 m — B115 M12
Werkzeug geloest
Tool unlocked

-Q97_W1 X199 /65.D6 1445057 — 0,75 mm² — 6 m — Q97
Werkzeugwechslerabdeckung, schließen
Tool changer cover, close

-B283_W1 /62.D2 1445237 — X199 — 0,34mm² — 7m — B283
Werkzeugwechslerabdeckung, offen
Tool changer cover, opened

-B284_W1 /62.D3 1445252 — X199 — 0,34mm² — 7m — B284
Werkzeugwechslerabdeckung, geschlossen
Tool changer cover, closed

-B366_W1 /62.D6 1445260 — X199 — 0,34 mm² — 6 m — B366 M12
Werkzeug korrekt eingelegt (Beladestelle)
Tool correctly inserted (Loading position)

-B367_W1 /63.E2 1445303 — X199 — 0,34 mm² — 5,5 m — B367 M12
Magazinplatz frei (Beladestelle)
Magazine place free (Loading position)

-B39_W1 /63.E3 1033312 — X199 — 0,50mm² 7,00m — B39_X
Magazinplatz frei (Wechselstelle)
Magazine place free (Tool change position)

-Q96_W1 X199 /65.D6 1445124 — 0,75 mm² — 6 m — Q96
Werkzeugwechslerabdeckung, oeffnen
Tool changer cover, open

-B392_W1 /59.E3 1004249 — 0,34 mm² — 10 m — M12
Durchflusswaechter Hochdruck
Flow controller High pressure

-B11_W1 /58.D2 1004249 — 0,34 mm² — 10 m — M12
Feuchtigkeitssensor Hauptspindel
Moisture sensor Main spindle

-Q249_W1 /48.E4 1453376 — 0,5 mm² — 5 m
Visiport
Visiport

-B40_W1 /64.C5 1167016 — 0,34 mm² — 20 m — M12
Werkzeug gespannt
Tool locked

-Q243_W1 /57.E5 1453276 — 0,5 mm² — 5 m
Vorrichtung spuelen Bearbeitungsseite 1525690500
Device flushing Machining side

-Q243.2_W1 /57.E7 1453276 — 0,5 mm² — 5 m
Vorrichtung spuelen Beladeseite 1525690500
Device flushing Loading side

-Q245_W1 /57.E3 1453276 — 0,5 mm² — 5 m
Werkzeugmagazin spuelen 1525690500
Tool magazine flushing

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e3 series

	Aenderungen / Modifications	Datum / Date	Name / Name
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b			
a			

Ursprung Source | Auftrag / Order 259292 | Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date
Ausführung / Mach. type	W	Gez./Drawn	30.07.2014 GRUBERB
NC-Typ / Type NC	Fanuc 31I B5	Gepr./Check.	11.11.2016 KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.	11.11.2016 KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.	500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer	

CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title: Ventile / Werkzeugwechsler FZ15.3K
Valves / Tool changer FZ15.3K
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	130
Masch.-Nr./Machine no.		28656

-B157_W1 /39.E4 1393139 X1 0,5mm² 5m B157
Werkzeugbeladetuer
Tool loading door

-B160_W1 /37.E6 1393138 X2 0,5mm² 7,5m B160
Seitentuer rechts
Sidedoor right

-B458_W1 /38.E2 1393100 X2 0,5mm² 7,5m B458
Schutztuer links
Protection door left

-B459_W1 /38.E5 1393111 X2 0,5mm² 7,5m B459
Schutztuer rechts
Protection door right

-M22_WX1 /46.C4 1136195 X2 1,5mm² 9m M22_X1
Posmo Motor
Posmo Motor

-M22_WX3 /46.C6 1136196 K107 0,64mm² 9m M22_X3
BUS Leitung
BUS Cable

-M22_WX5 /46.D4 1438467 X2 0,5mm² 9m M22_X5
Posmo Motor
Posmo Motor

-M22_WPE /46.C5 1136198 X90:23 16 mm² 10 m M22_PE
Potentialausgleich M22
Equipotential bonding M22

-E40.1_W1 /9.E1 1032624 X2 1mm² 7,5m E40.1
Arbeitsraumbeleuchtung
Working area lights

-E40.2_W1 /9.E2 1032565 X2 1mm² 8m E40.2
Arbeitsraumbeleuchtung
Working area lights

-E40.3_W1 /9.E3 1032567 X2 1mm² 8m E40.3
Arbeitsraumbeleuchtung
Working area lights

-P80_W1 /98.E2 1181339 0,25 mm² 10 m M12
Signallampe
Signal lamp

-A120_W1 /69.A4 1445363 X286 0,34mm² 8m A120
Minibedienfeld
Mini operating panel

-A120_W2 /69.A2 1431810
Frontplatte Minibedienfeld+
Front panel Mini operating panel+
Airsensoring
Airsensoring

-B162_W1 /47.C3 1191074 X2 1mm² 8m B162
Schutztuer links
Protection door left

-B163_W1 /47.C6 1191078 X2 1mm² 8m B163
Schutztuer rechts
Protection door right

-A122_W1 /67.C5 1122083 X200 0,5mm² 6m A122
Zusatztasten Magazinkette
Extra keys Magazine chain

-S305_W1 /67.D5 1166961 X200 0,5mm² 5,5m S305
Zustimmtaste
Door bypass button
Magazinkette
Magazine chain

Schaltschrank
Electric cabinet
-C5 1132327
Leitungsanschluss M-aufbau FZ15840DS

-C4 1137205
Installation Schaltschrank
Installation Electric cabinet

-A133_W5 /80.D3 1162391 X2 1,5 mm² 5,50 m A133
Luefter Spannhydraulik
Fan Clamping hydraulics

-A133_W1 /80.D2 1162391 X2 1,5 mm² 5,50 m A133
Spannhydraulik
Clamping hydraulics

-B130_W1 /14.E2 1043503 0,34 mm² 3m B130_W1 M8
Pneumatikdruck
Pneumatic pressure

-A18_WX3 /100.E3 1004252 0,34 mm² 5 m
Zentralschmierung Oel
Central lubrication Oil

-Q138_W1 /14.E5 1453276 0,5 mm² 5 m Q138_W1
Sperrluftfilter leeren 1525690500
Blocking air filter deplete

-Q139_W1 /14.E5 1402752 0,34 mm² 5 m Q139_W1 M12
Pneumatik ein/aus
Pneumatic on/off

-Q180_W1 /78.E1 1453277 0,5 mm² 7 m
Werkstueckwechsler abblasen
Workpiece changer blow off

-Q182_W1 /78.E2 1453277 0,5 mm² 7 m
Werkstueckwechsler verriegeln
Workpiece changer lock

-A140_WPE /79.E4 1033068 X90 16 mm² 8 m M60_PE
Potentialausgleich
Equipotential bonding

-Q181_W1 /78.E2 1453277 0,5 mm² 7 m
Werkstueckwechsler abheben
Workpiece changer lift

-Q183_W1 /78.E3 1453277 0,5 mm² 7 m
Werkstueckpalette 1 unter Spindel
Workpiece pallet 1 below the spindle

-Q184_W1 /78.E3 1453277 0,5 mm² 7 m
Werkstueckpalette 2 unter Spindel
Workpiece pallet 2 below the spindle

-X26_W1 /78.E4 1439294 X2 0,5mm² 6,5m X26
Werkstueckwechsler
Workpiece changer

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	Aenderungen / Modifications	Datum / Date	Name / Name
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c			
b			
a			

Ursprung Source | Auftrag / Order 259292 | Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title: Installation 15.3K W
Installation 15.3K W
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status: FR	Blatt/Sheet: 131	
Masch.-Nr./Machine no.: 28656		

-M1_W1 /27.E3 1086006 — K2 — 10mm² 8,5m — M1A
Hauptspindelmotor
Main spindle motor

-M1_W2 /27.F3 1086007 — K2 — 10mm² 8,5m — M1B
Hauptspindelmotor
Main spindle motor

-M1_WX2 /27.E3 1102361 — T21_S_JYA2 — 9m — M1_X2
Hauptspindel Signalgeber
Main spindle Signal transmitter

-M1_WM1 /27.D2 1131595 — 1mm² 9m — M1_M1
Luefter, Hauptspindelmotor
Fan, Spindle motor

-M1_WPE /27.F7 1033092 — X90 — 16 mm² 10 m — M1_PE
Potentialausgleich
Equipotential bonding

-M1_W1 1395310
Verschraubung HS Motor

-M5_WX1 /30.E4 1131570 — 2,5 mm² 7 m — M5_X1
Motor Z-Achse
Motor Z-Axis

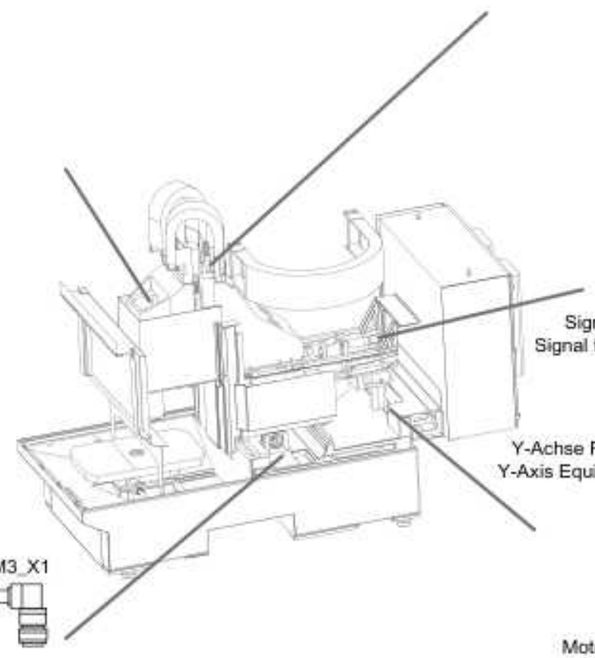
-M5_WX2 /30.E4 1168869 — T21_Z_JF1 — 8 m — M5_X2
Signalgeber Z-Achse
Signal transmitter Z-Axis

-M5_WX3 /30.E4 1179740 — R20 — 1mm² 6,5 m — M5_X3
Bremse Z-Achse
Brake Z-Axis

-X143_W1 /30.F5 1173298 — K105_JF102 — 9,5m — X143
Laengenmesssystem Z-Achse
Length measuring system Z-Axis

-M5_WPE /30.E6 1164607 — X90 — 16 mm² 9,5 m — M5_PE
Z-Achse Potentialausgleich
Z-Axis Equipotential bonding

-B35_WPE /30.F7 1173289 — X90_23 — 16 mm² 7,5 m — B35_PE
X143 Potentialausgleich
X143 Equipotential bonding



-M4_WX1 /29.D4 1122898 — N1_XY_CZ2M — mm² 6 m — M4_X1
Motor Y-Achse
Motor Y-Axis

-M4_WX2 /29.D6 1168883 — XY_JF2 — 6,5 m — M4_X2
Signalgeber Y-Achse
Signal transmitter Y-Axis

-M4_WPE /29.E4 1033060 — X90 — 16 mm² 7 m — M4_PE
Y-Achse Potentialausgleich
Y-Axis Equipotential bonding

-X142_W1 /29.F5 1173297 — K105_JF102 — 5,5m — X142
Laengenmesssystem Y-Achse
Length measuring system Y-Axis

-B34_WPE /29.F7 1173287 — X90_22 — 16 mm² 9 m — B34_PE
X142 Potentialausgleich
X142 Equipotential bonding

-M3_WX1 /29.D3 1032841 — X_CZ2L — 4 mm² 7 m — M3_X1
Motor X-Achse
Motor X-Axis

-M3_WX2 /29.D2 1168868 — X_JF1 — 5,5 m — M3_X2
Signalgeber X-Achse
Signal transmitter X-Axis

-M3_WPE /29.E2 1116709 — X90 — 16 mm² 6,5 m — M3_PE
Motor X-Achse
Motor X-Axis

-M11_WX1 /31.E4 1121689 — N1_CZ5 — 1,5 mm² 6,5 m — M11_X1
Motor Kettenmagazin
Motor Chain magazine

-M11_WX2 /31.E3 1168884 — T21_K_JF1 — 6,5 m — M11_X2
Signalgeber Kettenmagazin
Signal transmitter Chain magazine

-M11_WPE /31.F8 1033093 — X90 — 16 mm² 9 m — M11_PE
Magazinkette Potentialausgleich
Magazine chain Equipotential bonding

-X141_W1 /29.F2 1173296 — K105_JF101 — 7m — X141
Laengenmesssystem X-Achse
Length measuring system X-Axis

-B33_WPE /29.F4 1123331 — X90_21 — 16 mm² 8 m — B33_PE
B33_PE Potentialausgleich
B33_PE Equipotential bonding

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series

Aenderungen / Modifications	Datum / Date	Name / Name
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Ursprung Source	Auftrag / Order 259292	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31i B5	Geprüft/Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aenderungs-Nr. / Modific. no.			500000172977
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer			

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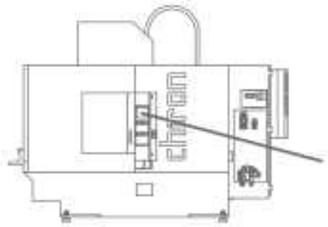
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title: Antriebe 15.3K FAN
Drives 15.3K FAN
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status: FR	Blatt/Sheet: 132	
Masch.-Nr./Machine no.: 28656		

-X110_WRJ45
/10.D7
1003317
PatchKabel Ferndiagnose
PatchCable Telediagnostic
8 m

W - Maschine
W - Machine



-0X4_W1 /10.E3 — X2 — 0X4
1125304
Steckdose D/F
socket D/F
1mm² 7m

-S102_WCA64A /16.C2 — X2 — S102_CA64A
1099679
Vers.K-Pult Fanuc
power supply panel
1mm² 8,5m

-S102_WJD1B — K100_JD44A — S102_JD1B
1099680
I/O-Link NC-Bedienfeld
I/O-Link Control panel NC
mm² 6,5m

-X89_W2 — X89
1032275
Erdungsschiene Kommandopult
Protection earth Control panel
6mm² 0,8m

-X60_W1 /16.E2 — CM68/CM69/CA157 — X60
1438788
Ein-/Ausgaenge Kommandopult
In-/outputs Control panel
0,14mm² 0,75m

-P10_WCP1A /16.C4 — S102_CA64B — P10_CP1A
1163369
Stromversorgung Bildschirm
Power supply Screen
1mm² 0,7m

-X112_W2 /77.D6 — S102_JA3 — X112
1032785
Handrad tragbar
Manual pulse generator portable
0,14mm² 1m

-X110_W1 /10.D6 — K100_JD5A — X110
1407729
Schnittstelle RS232
Interface RS232
mm² 6,5m

-X89_W1 /12.E2 — X90 — 10 mm² 7,5 m — X89
1116498
Schaltschrank / K-Pult
el. cabinet / control panel

-X282_W1 /73.D1 — X281 — X282
1400082
Taster Kommandopult
Push button Control panel
0,34mm² 8m

-K21_W1 /20.C2
1144786
Verbindungskabel MPI
Connection cable MPI
mm² 3m

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Ursprung Source | Auftrag / Order 259292 | Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31I B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aenb.-Nr. / Modific. no.			500000172977

Dokument Kunde / Document customer | Inv.-Nr. Kunde / Inv. no. customer

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Benennung/Title
Kommandopult 15.3K FAN
Control panel 15.3K FAN
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	133
Masch.-Nr./Machine no.		28656

IWW

-M60_WX1 /32.E4 — N1_4_CZ2L 1,50 mm² 10,5 m — M60_X1
1032773
Motor 4. Achse
Motor 4th Axis

-M60_WX1
1172938
Schottblech
Metal bulkhead sheet

ATU 200

-M60_WX2 /32.E4 — T21_4_JF1 10,5 m — M60_X2
1168977
Signalgeber 4. Achse
Signal transmitter 4th Axis

ATU 200

-M61_WX2 /33.E3 — T21_5_CZ2L 1,5 mm² 10,5 m — M61_X1
1168864
Motor 5. Achse
Motor 5th Axis

-M61_WX1 /33.E4 — T21_5_JF1 10,5 m — M61_X2
1185426
Signalgeber 5. Achse
Signal transmitter 5th Axis

-X144_W1 /32.F6 — K105_JF104 9m — X144
1100555
Laengenmesssystem 4. Achse
Length measuring system 4th Axis

-X145_W1 /33.F5 — K106_JF105 9m — X145
1100556
Laengenmesssystem 5. Achse
Length measuring system 5th Axis

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series

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Ursprung Source

Auftrag / Order 259292

Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn		30.07.2014	GRUBERB
NC-Typ / Type NC	Fanuc 31I B5	Gepr./Check.		11.11.2016	KEHM
Antriebe / Drives	400V/HVI	Freig./Approv.		11.11.2016	KEHM
E/A-Module / I/O-Modules	Inline modular	Aend.-Nr. / Modific. no.			500000172977

Dokument Kunde / Document customer

Inv.-Nr. Kunde / Inv. no. customer

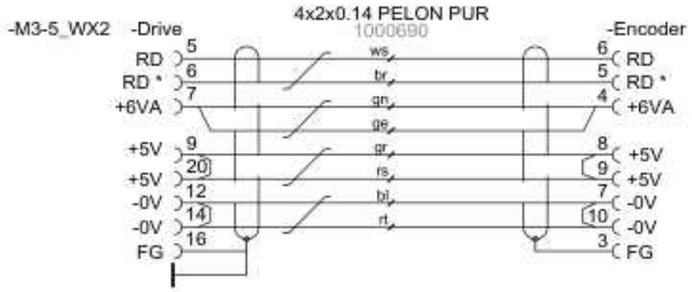
CHIRON-WERKE GmbH & Co. KG
Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
4. und 5. Achse 15.3K FAN
4th and 5th Axis 15.3K FAN

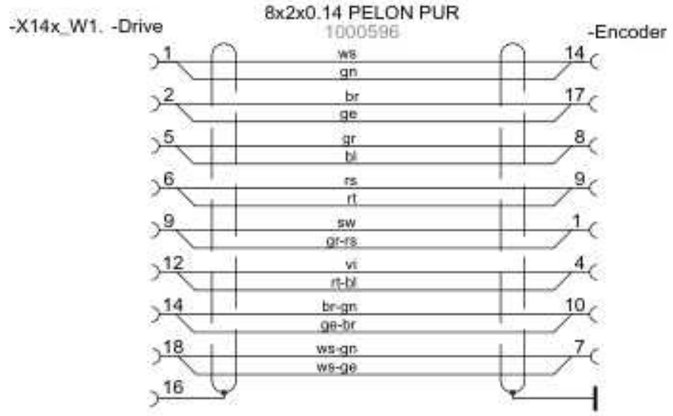
Erg.-Benennung/Additional title

Dokument / Document	3210487	Teil-Dok. / Doc.-part	000
Version / Version	01		
Status/Status	FR	Blatt/Sheet	134
Masch.-Nr./Machine no.	28656		

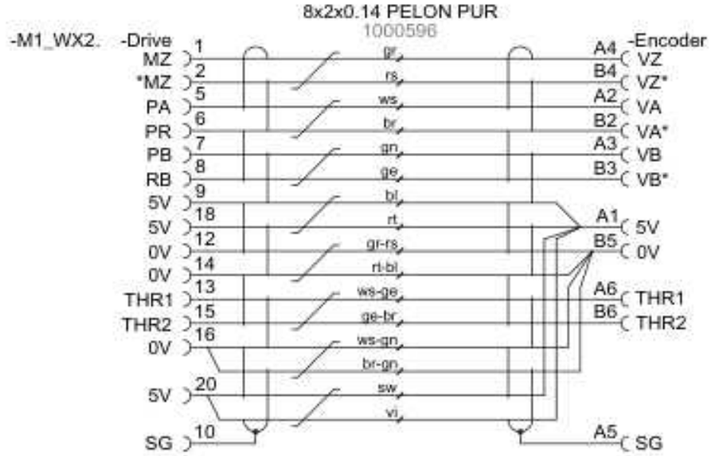
Signalgeber Achsen
Signal transmitter Axes



Signalgeber Laengenmesssystem
Signal transmitter Length measuring system



Signalgeber FANUC Hauptspindelmotor
Signal transmitter FANUC Main spindle motor



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series

Aenderungen / Modifications	Datum / Date	Name / Name	Baureihe / Series 15.3 PickUp	CAD E3	Datum / Date	Name / Name
d			Ausführung / Mach. type W	Gez./Drawn	30.07.2014	GRUBERB
c			NC-Typ / Type NC Fanuc 31i B5	Gepr./Check.	11.11.2016	KEHM
b			Antriebe / Drives 400V/HVI	Freig./Approv.	11.11.2016	KEHM
a			E/A-Module / I/O-Modules Inline modular	Aend.-Nr. / Modific. no.		500000172977
Ursprung Source	Auftrag / Order 259292	Maesstab / Scale	Dokument Kunde / Document customer	Inv.-Nr. Kunde / Inv. no. customer		

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Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Kabeluebersichtsplan Fanuc Signalgeber
Total connection diagram Fanuc Signal transmitter

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210487	000	01
Status/Status FR	Blatt/Sheet	135
Masch.-Nr./Machine no.		28656

Aenderungsdokumentation
Modification documentation

Blatt/Sheet	Benennung/Title	Rev.	Aenderungen / Modifications	Datum / Date	Name / Name

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Aenderungsdokumentation
Modification documentation

Blatt/Sheet	Benennung/Title	Rev.	Aenderungen / Modifications	Datum / Date	Name / Name

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Aenderungsdokumentation
Modification documentation

Blatt/Sheet	Benennung/Title	Rev.	Aenderungen / Modifications	Datum / Date	Name / Name

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Aenderungsdokumentation
Modification documentation

Blatt/Sheet	Benennung/Title	Rev.	Aenderungen / Modifications	Datum / Date	Name / Name

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Aenderungsdokumentation
Modification documentation

Blatt/Sheet	Benennung/Title	Rev.	Aenderungen / Modifications	Datum / Date	Name / Name

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Aenderungsdokumentation
Modification documentation

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Aenderungsdokumentation
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Blatt/Sheet	Benennung/Title	Rev.	Aenderungen / Modifications	Datum / Date	Name / Name

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Aenderungsdokumentation
Modification documentation

Blatt/Sheet	Benennung/Title	Rev.	Aenderungen / Modifications	Datum / Date	Name / Name

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F.2 Kühlmittelplan

Blatt / Sheet	Beschreibung	Description	Datum / Date	Bearbeiter / Editor	Dokument-Typ / Document type
1	Spaenefoerderer	Chip conveyor	01.08.2014	ROMMEL	Kuehlmittelschema
2	Kuehlmittelanlage TPF350S	Coolant unit TPF350S	01.08.2014	ROMMEL	Kuehlmittelschema
3	Verteiler	Distributor	01.08.2014	ROMMEL	Kuehlmittelschema
4	Maschinenaufbau	Upper machine	01.08.2014	ROMMEL	Kuehlmittelschema
5	Spuelpistole	Flushing gun	01.08.2014	ROMMEL	Kuehlmittelschema
6	Vorrichtungsspuelung	Device flushing	01.08.2014	ROMMEL	Kuehlmittelschema
7	Installation, TPF350S, 1050, links	Installation, TPF350S, 1050, left	01.08.2014	ROMMEL	Kuehlmittelschema

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E3 series

	Aenderungen / Modifications	Datum / Date	Name / Name
d			
c			
b			
a			
Ursprung Source		Auftrag / Order	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD E3	Datum / Date	Name / Name
Ausführung / Mach. type	W	Gez./Drawn	01.08.2014	ROMMEL
NC-Typ / Type NC	---	Gepr./Check.	26.11.2014	ROMMEL
Antriebe / Drives	---	Freig./Approv.	26.11.2014	ROMMEL
EA-Module / I/O-Modules	---	Aend.-Nr. / Modific. no.	500000132057
Dokument Kunde / Document customer		Inv.-Nr. Kunde / Inv. no. customer	

chiron
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Kreuzstr. 75, D-78532 Tuttlingen

Benennung/Title
Inhaltsverzeichnis
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3210645	000	00
Status/Status FR	Blatt/Sheet	0.1
Masch.-Nr./Machine no.		28656

-A30

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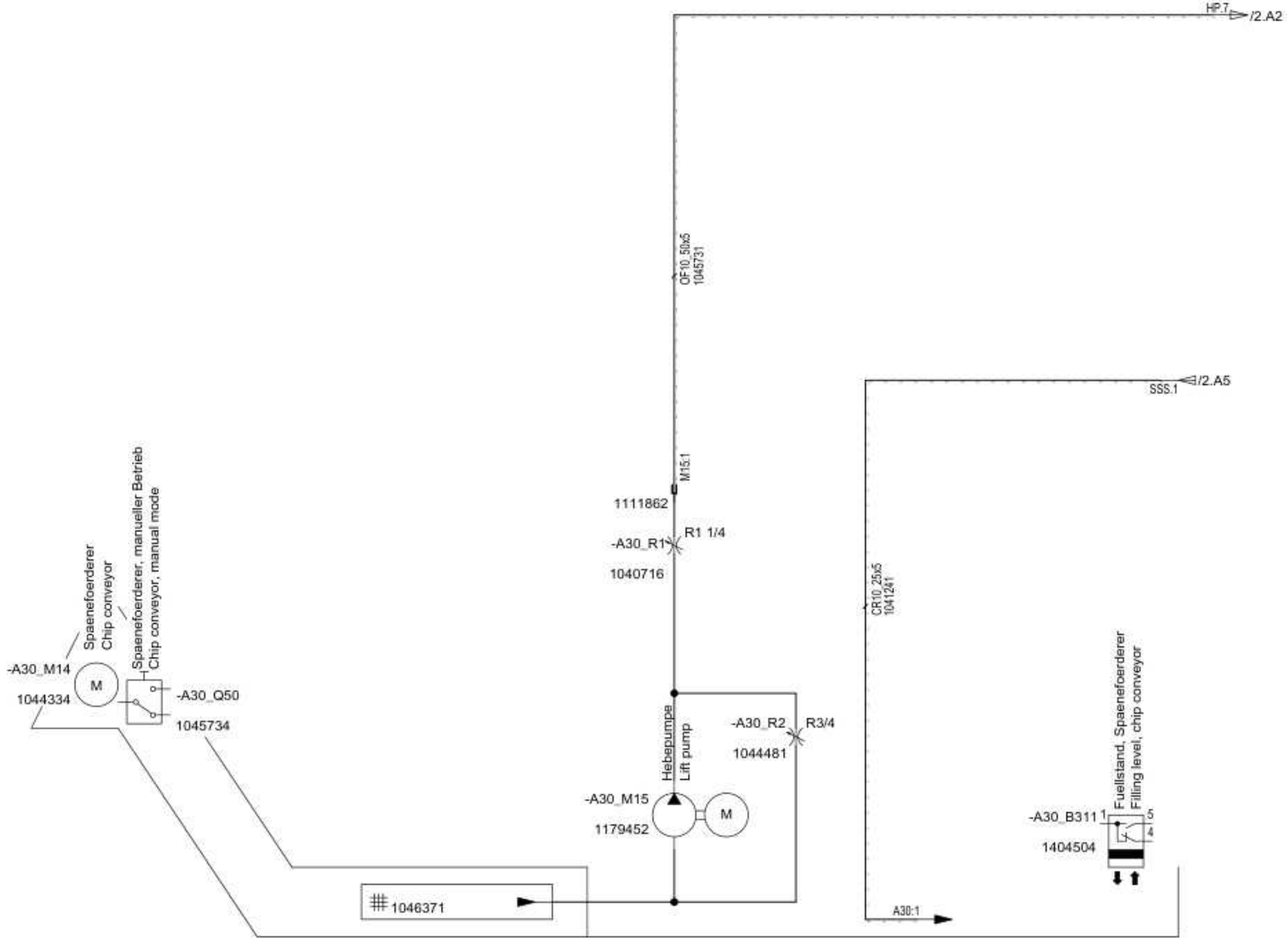

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c			
b			
a			
Ursprung Source		Auftrag / Order	Massstab / Scale

Baureihe / Series	15.3 PickUp	CAD	E3	Datum / Date	Name / Name
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NC-Typ / Type NC	---	Gepr./Check.		26.11.2014	ROMMEL
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E/A-Module / I/O-Modules	---	Aend.-Nr./Modific. no.			500000132057
Dokument Kunde / Document customer		Inv.-Nr. Kunde/Inv. no. customer			

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Benennung/Title
Spaenefoerderer
Chip conveyor

Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210645	000	00
Status/Status FR	Blatt/Sheet 1	
Masch.-Nr./Machine no. 28656		

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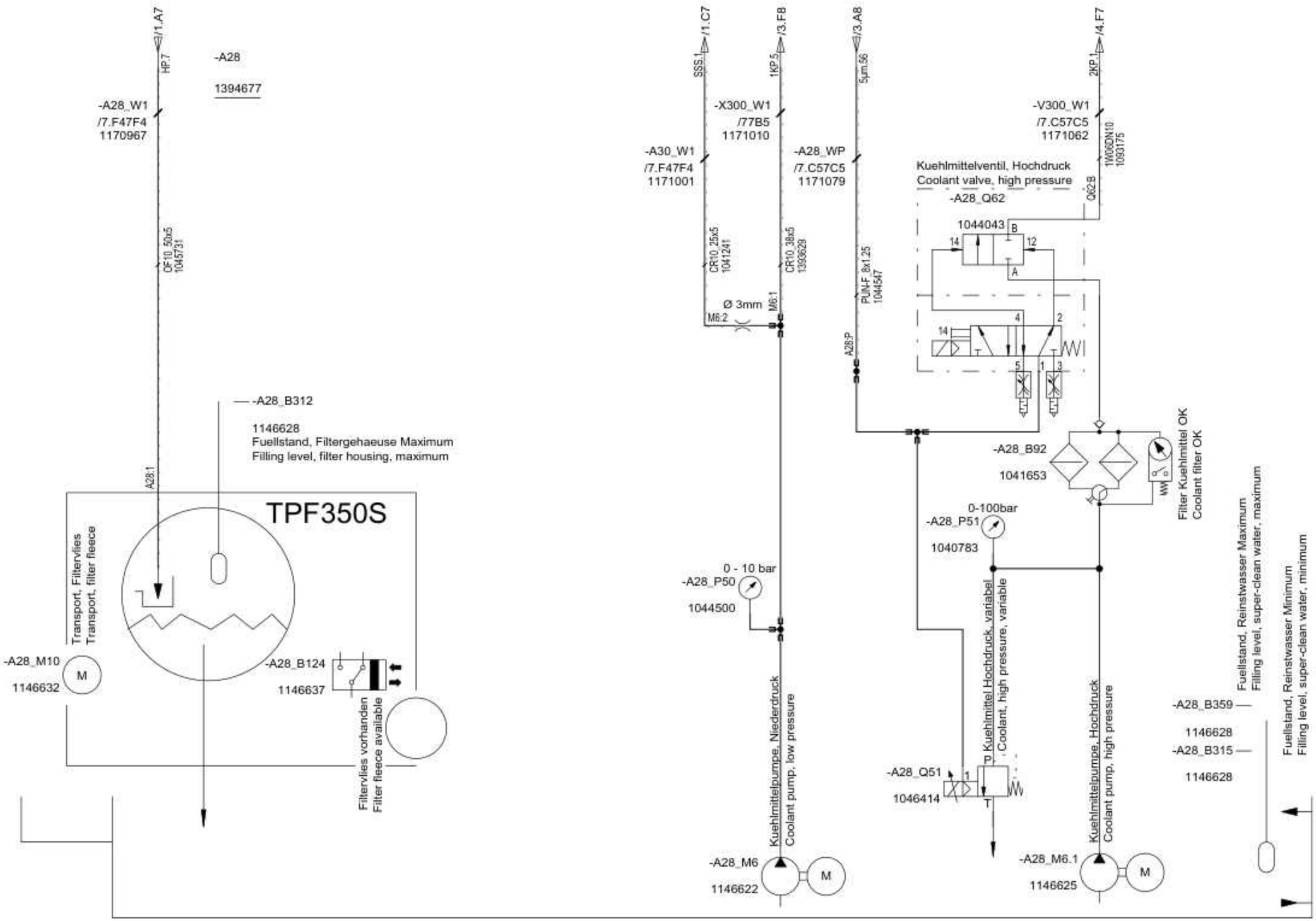
series



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a				EA-Module / I/O-Modules ---	Aend.-Nr./Modific. no.		500000132057
Ursprung Source		Auftrag / Order	Massstab / Scale	Dokument Kunde / Document customer	Inv.-Nr. Kunde/Inv. no. customer		

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Benennung/Title
Kuehlmittelanlage TPF350S
Coolant unit TPF350S
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210645	000	00
Status/Status FR	Blatt/Sheet 2	
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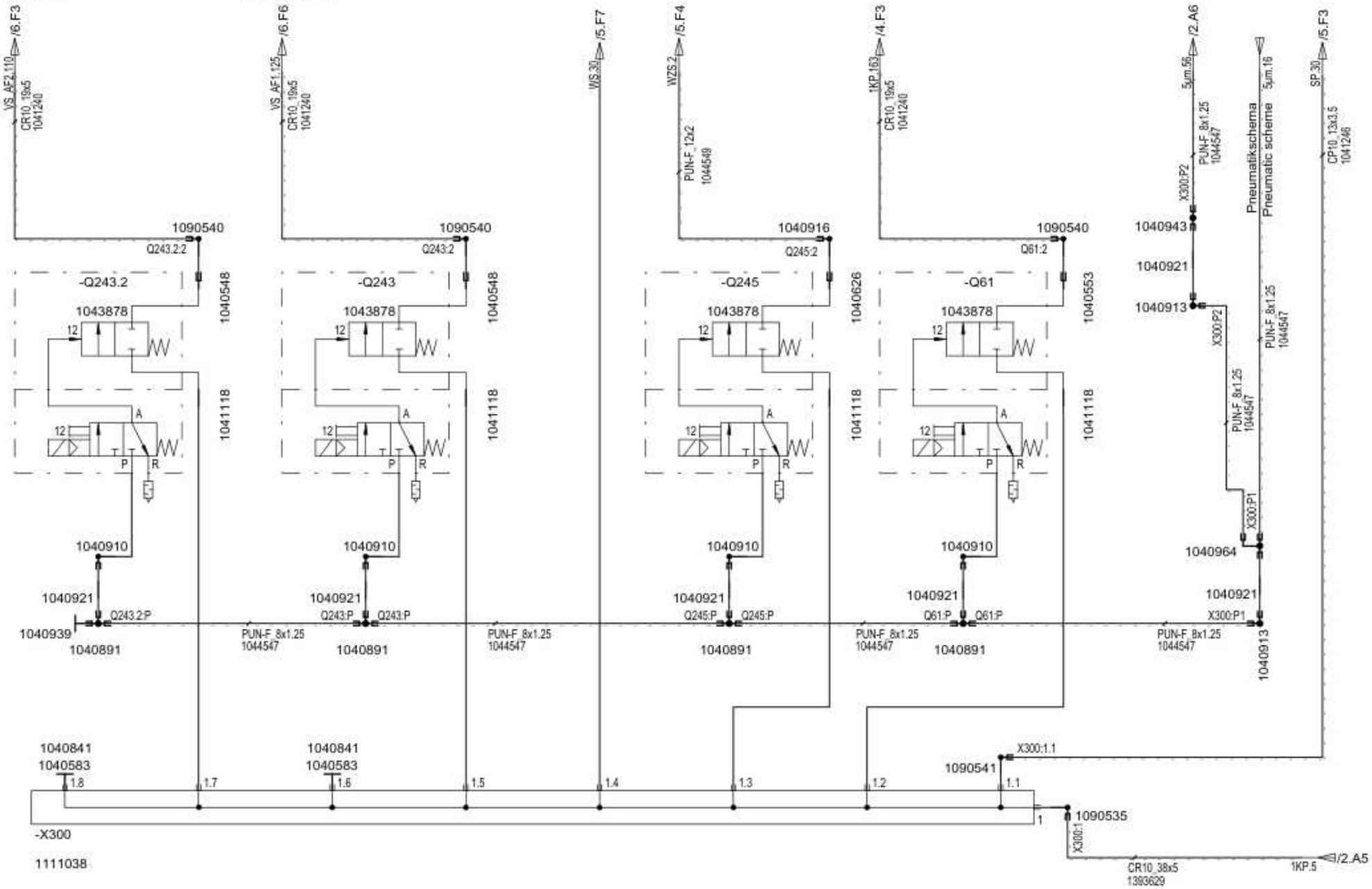

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c				NC-Typ / Type NC	---	Gepr./Check.		26.11.2014	ROMMEL
b				Antriebe / Drives	---	Freig./Approv.		26.11.2014	ROMMEL
a				E/A-Module / I/O-Modules	---	Aend.-Nr./Modific. no.			500000132057
Ursprung Source		Auftrag / Order	Massstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde/Inv. no. customer			

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Benennung/Title: Verteiler
Distributor
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
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Status/Status: FR	Blatt/Sheet	3
Masch.-Nr./Machine no.		28656

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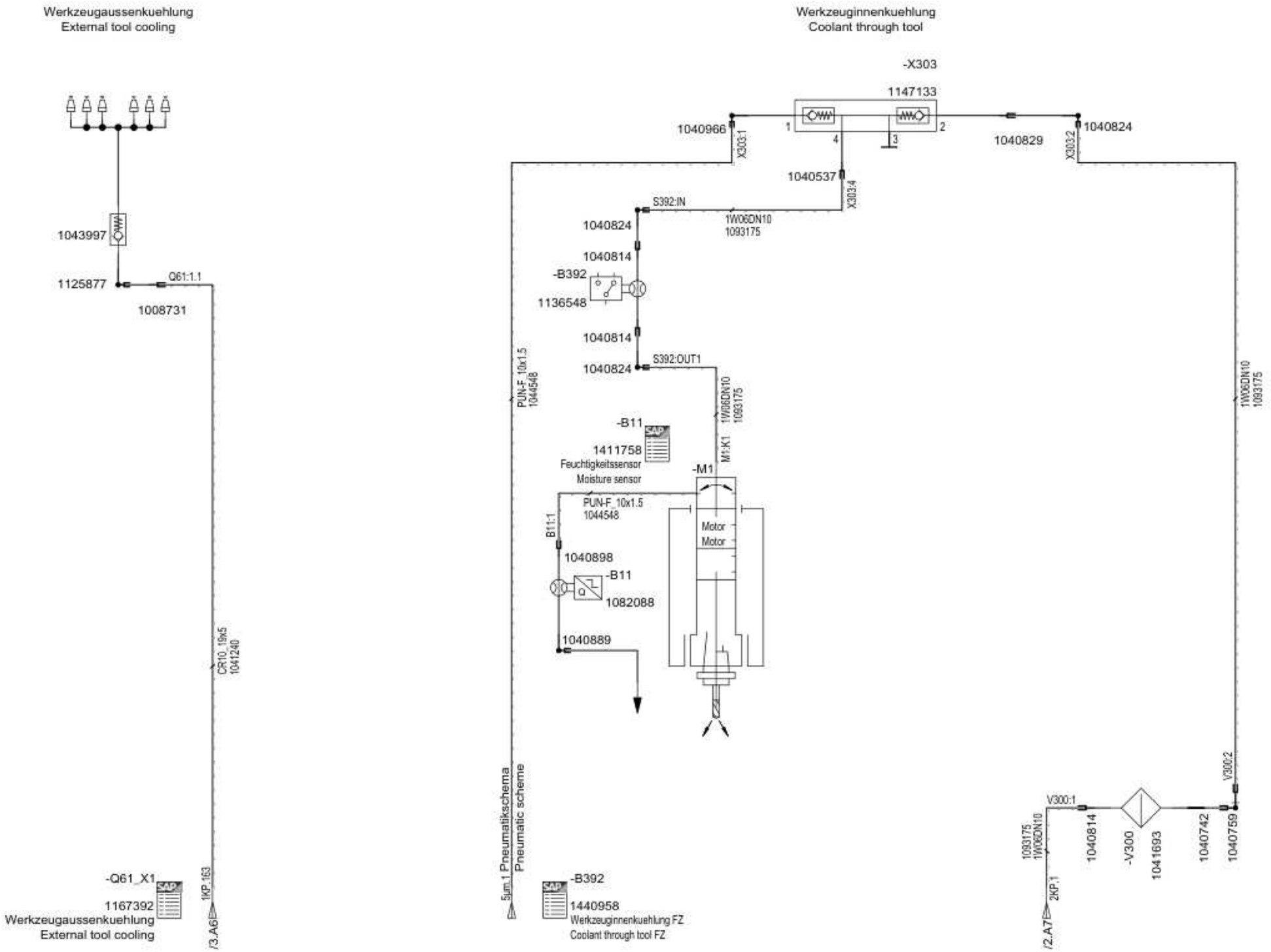
date of printing: 26.11.2014

E3 series



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b			Antriebe / Drives ---	Freig./Approv.	26.11.2014	ROMMEL
a			E/A-Module / I/O-Modules ---	Aend.-Nr./Modific. no.		500000132057
Ursprung Source	Auftrag / Order	Massstab / Scale	Dokument Kunde / Document customer	Inv.-Nr. Kunde/Inv. no. customer		

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Benennung/Title: Maschinenaufbau
Upper machine
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210645	000	00
Status/Status FR	Blatt/Sheet	4
Masch.-Nr./Machine no.		28656

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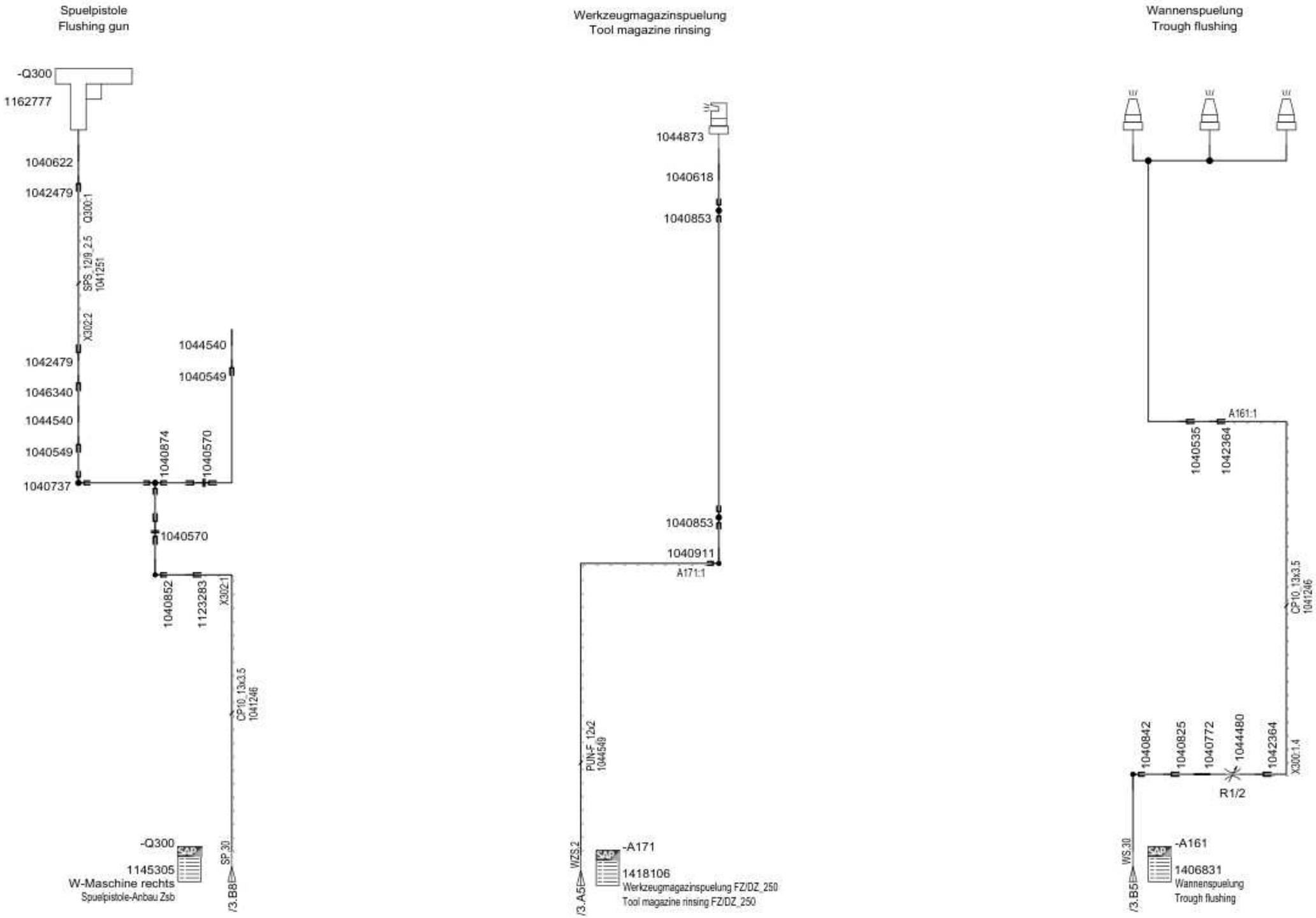
E3 series



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E3 series

	Aenderungen / Modifications	Datum / Date	Name / Name
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c			
b			
a			
Ursprung Source		Auftrag / Order	Massstab / Scale

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NC-Typ / Type NC	---	Gepr./Check.	26.11.2014	ROMMEL
Antriebe / Drives	---	Freig./Approv.	26.11.2014	ROMMEL
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Dokument Kunde / Document customer		Inv.-Nr. Kunde/Inv. no. customer		

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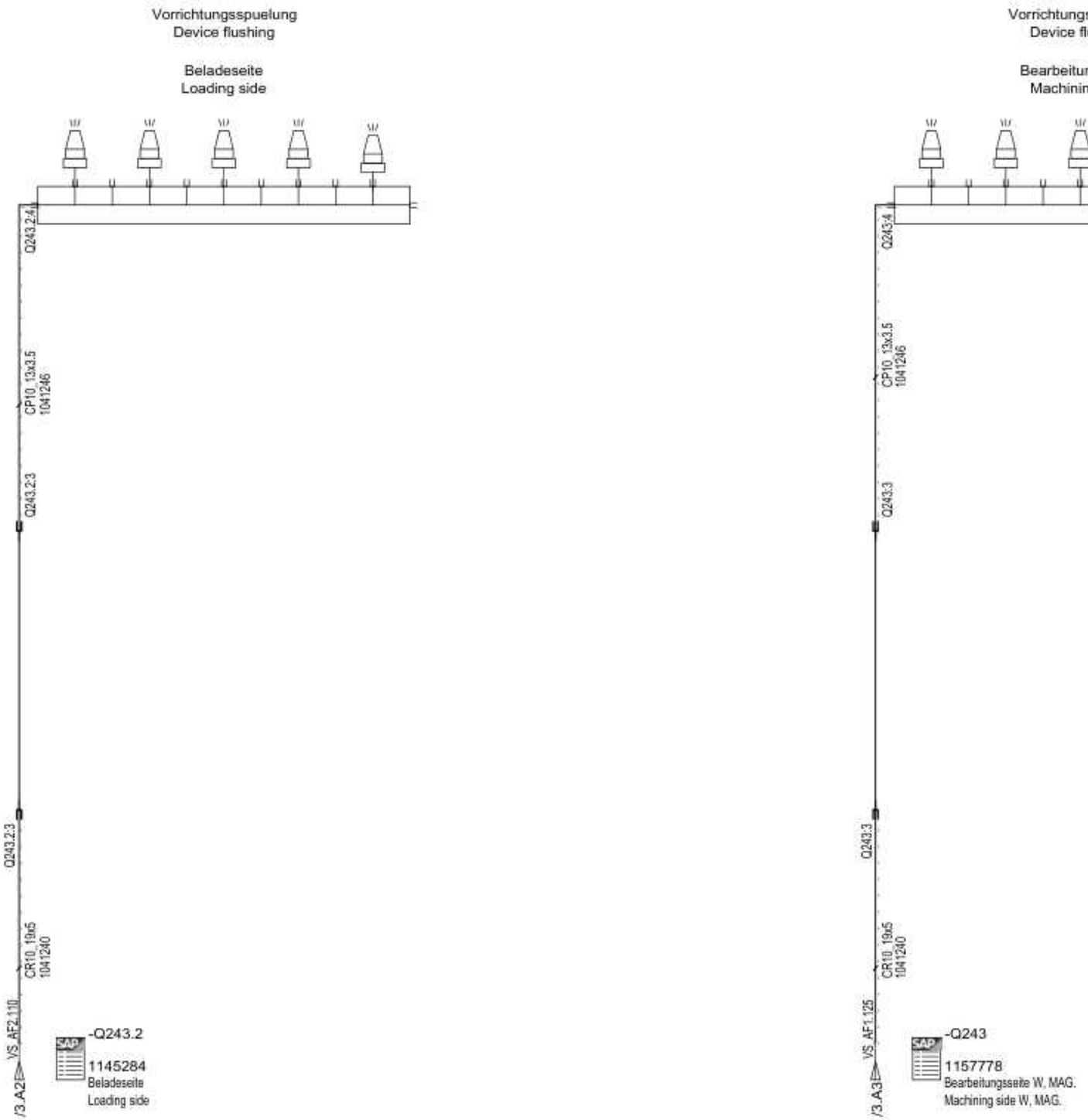
Benennung/Title: Spuelpistole
Flushing gun
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210645	000	00
Status/Status: FR	Blatt/Sheet: 5	
Masch.-Nr./Machine no.: 28656		



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series

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b			Antriebe / Drives	---	Freig./Approv.		26.11.2014	ROMMEL
a			EA-Module / I/O-Modules	---	Aend.-Nr./Modific. no.			500000132057
Ursprung Source	Auftrag / Order	Massstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde/Inv. no. customer			

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Benennung/Title
Vorrichtungsspuelung
Device flushing
Erg.-Benennung/Additional title

Dokument Document	Teil-Dok. Doc.-part	Version Version
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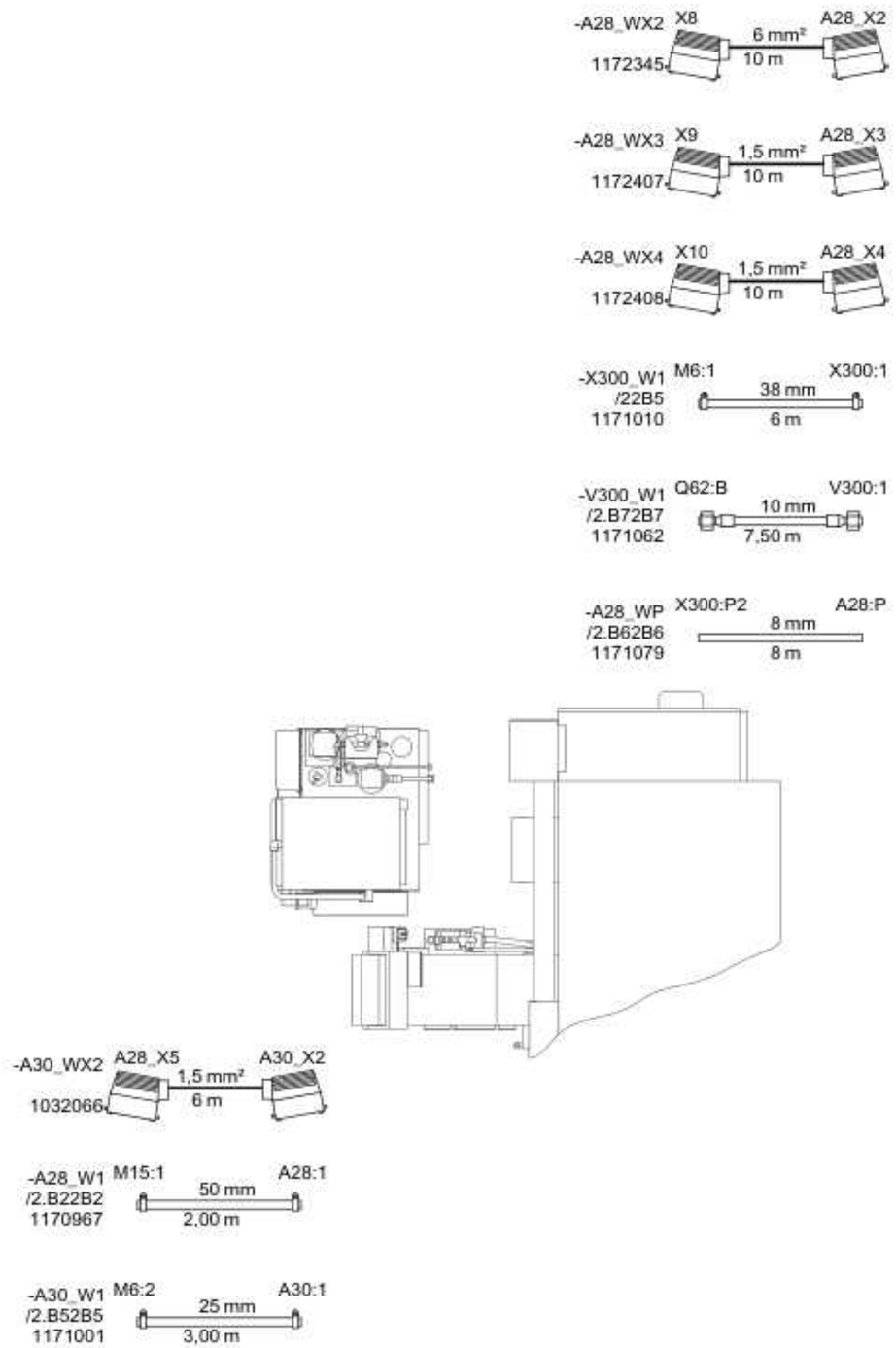
Status/Status FR	Blatt/Sheet	6
Masch.-Nr./Machine no.		28656



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b				Antriebe / Drives	---	Freig./Approv.		26.11.2014	ROMMEL
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Ursprung Source		Auftrag / Order	Maßstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde/Inv. no. customer			

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Benennung/Title
Installation, TPF350S, 1050, links
Installation, TPF350S, 1050, left
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3210645	000	00
Status/Status FR	Blatt/Sheet	7
Masch.-Nr./Machine no.		28656

F.3 Hydraulikplan

Blatt / Sheet	Beschreibung	Description	Datum / Date	Bearbeiter / Editor	Dokument-Typ / Document type
1	Hydraulikaggregat	Hydraulic unit	21.07.2014	HESS	
2	Steuerblockverkettung	Interlinking control block	21.07.2014	HESS	
3	Steuerblockverkettung	Interlinking control block	21.07.2014	HESS	
4	Steuerblockverkettung	Interlinking control block	21.07.2014	HESS	
5	Spannhydraulik Verteilerbox	Clamping hydraulics Distribution box	21.07.2014	HESS	
6	Spannhydraulik Verteilerbox	Clamping hydraulics Distribution box	21.07.2014	HESS	
7	Spannhydraulik Verteilerbox	Clamping hydraulics Distribution box	21.07.2014	HESS	
8	Drehverteiler 31	Turnable distributor 31	21.07.2014	HESS	
9	Vorrichtung der Maschine 286-39		21.07.2014	HESS	
10	Vorrichtung der Maschine 286-39		21.07.2014	HESS	

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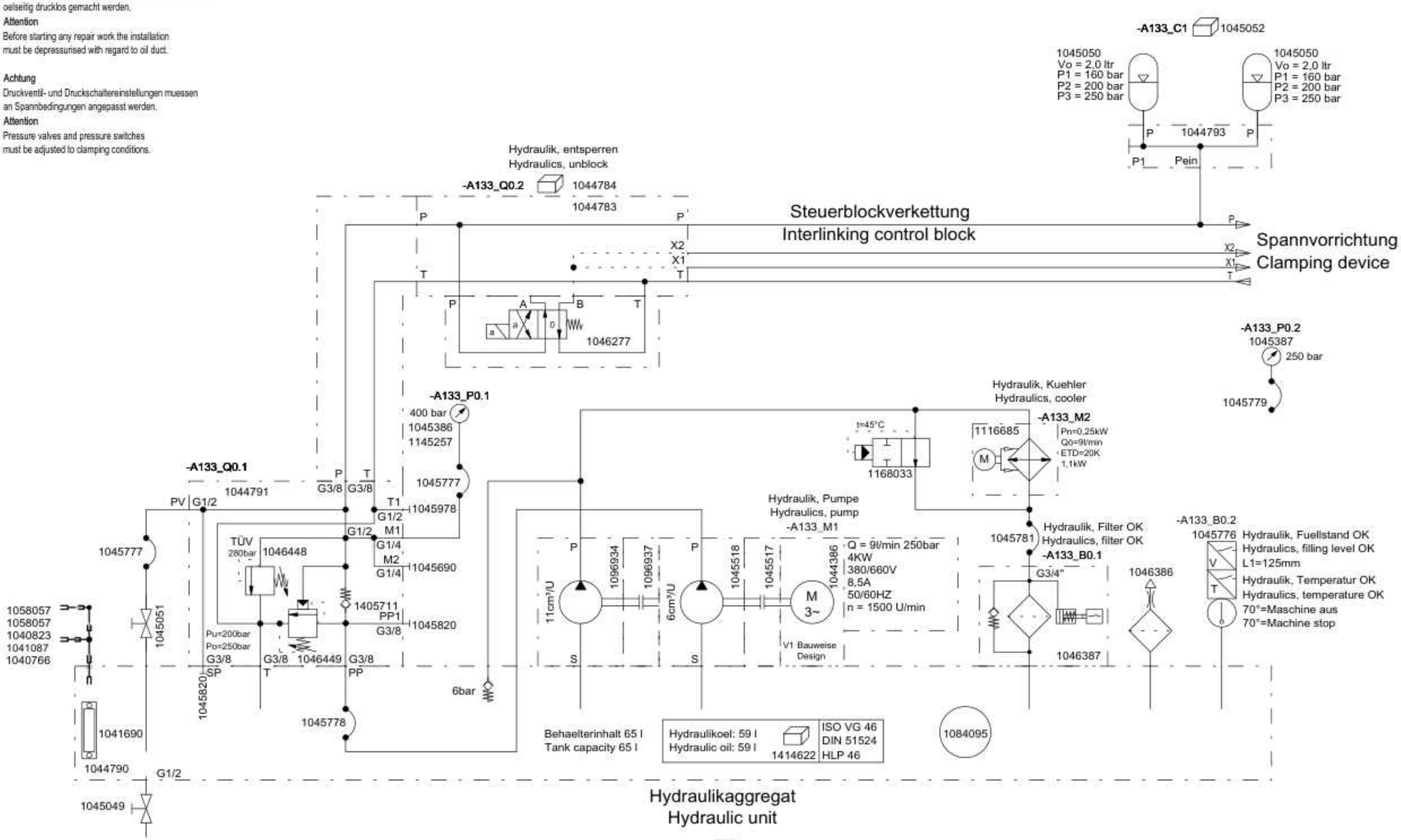
Achtung
Vor Beginn jeder Reparatur muss die Druckspeicheranlage oelseitig drucklos gemacht werden.
Attention
Before starting any repair work the installation must be depressurised with regard to oil duct.

Achtung
Druckventil- und Druckschaltereinstellungen muessen an Spannbedingungen angepasst werden.
Attention
Pressure valves and pressure switches must be adjusted to clamping conditions.



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c			Ausfuehrung / Mech. type	W	Gez./Drawn	21.07.2014	HESS
b			NC-Typ / Type NC	Fanuc 31i B5	Gepr./Check.	24.11.2014	HESS
a			Antriebe / Drives	400V/HVI	Freig./Approv.	24.11.2014	HESS
Ursprung Source	Auftrag / Order	Massstab / Scale	E/A-Module / I/O-Modules	I/O-MODULE	Aend.-Nr./Modific. no.		500000131269
			Dokument Kunde / Document customer		Inv.-Nr. Kunde/Inv. no. customer		

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Benennung/Title: Hydraulikaggregat / Hydraulic unit
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3209330	000	00
Status/Status FR	Blatt/Sheet 1	
Masch.-Nr./Machine no. 28656		

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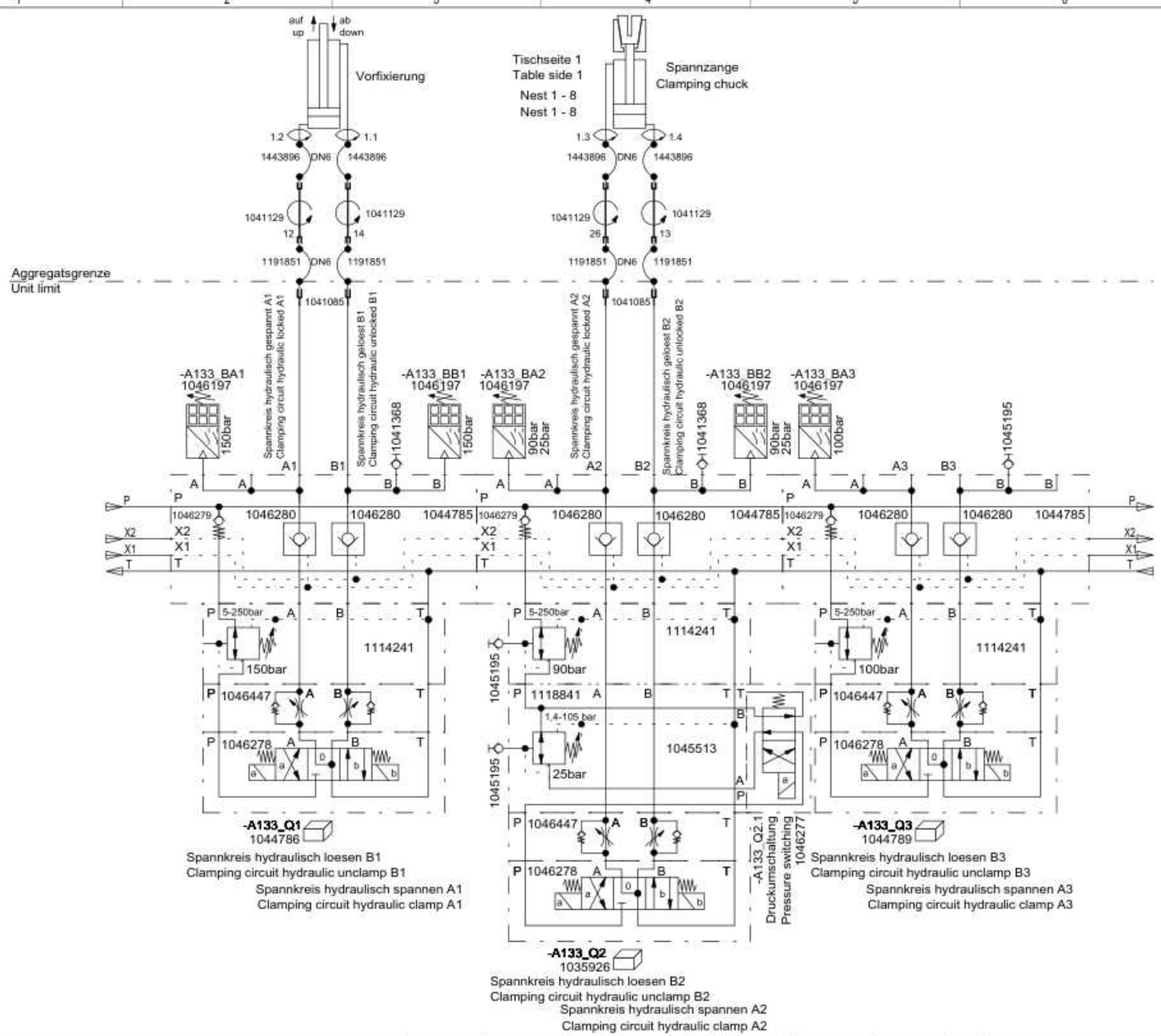
3209330_000_00 date of saving: 24.11.2014 15:04 filename: user: hess date of printing: 24.11.2014



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b			Antriebe / Drives	400V/HVI	Freig./Approv.		24.11.2014	HESS
a			E/A-Module / I/O-Modules	I/O-MODULE	Aend.-Nr./Modific. no.			500000131269
Ursprung Source	Auftrag / Order	Massstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde/Inv. no. customer			

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Benennung/Title: Steuerblockverkettung
Interlinking control block
Ers.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3209330	000	00
Status/Status: FR	Blatt/Sheet: 2	
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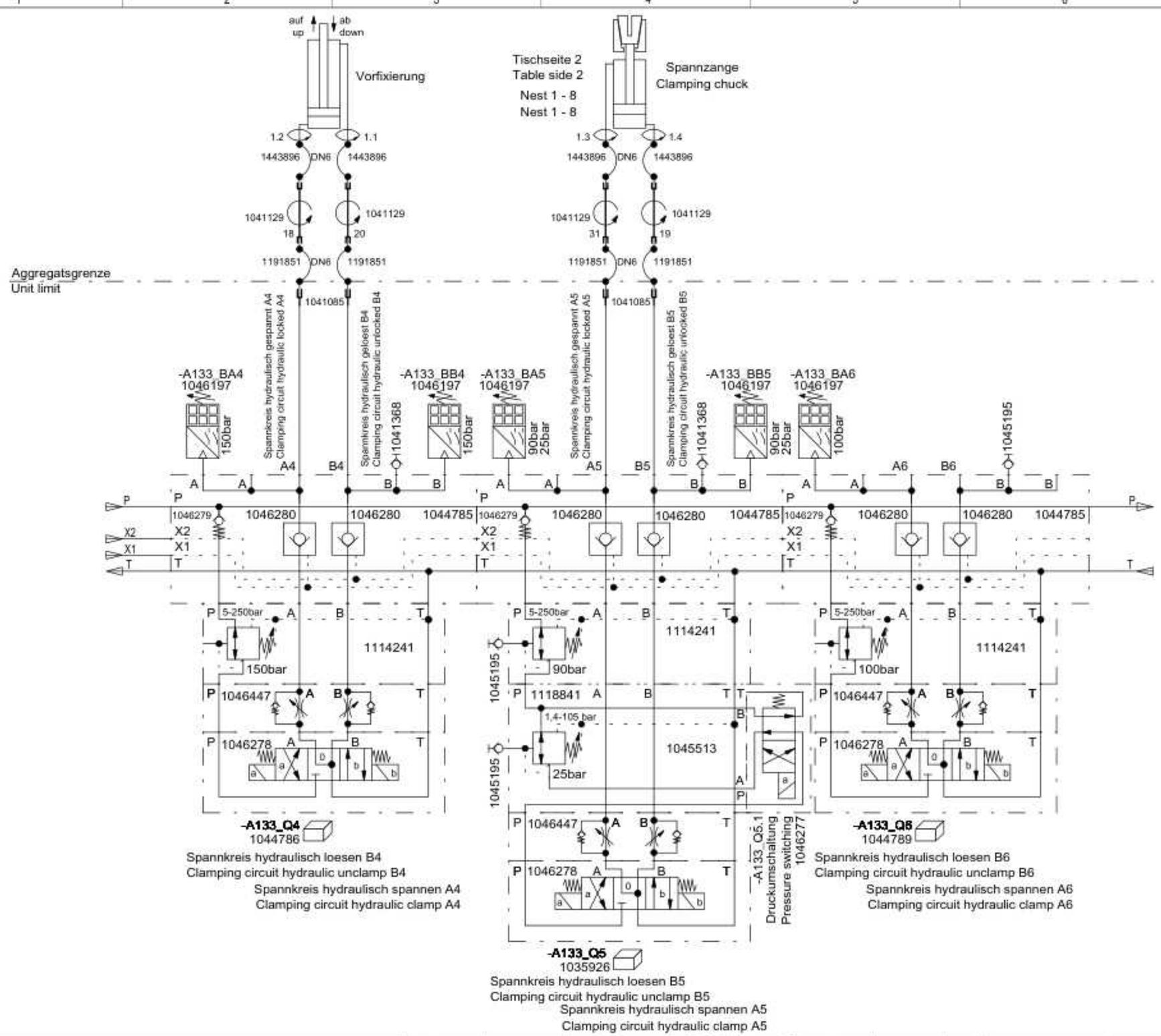

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a				E/A-Module / I/O-Modules	I/O-MODULE	Aend.-Nr./Modific. no.			500000131269
Ursprung Source		Auftrag / Order	Massstab / Scale	Dokument Kunde / Document customer		Inv.-Nr. Kunde/Inv. no. customer			

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Benennung/Title: Steuerblockverkettung
Interlinking control block
Ers.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
3209330	000	00
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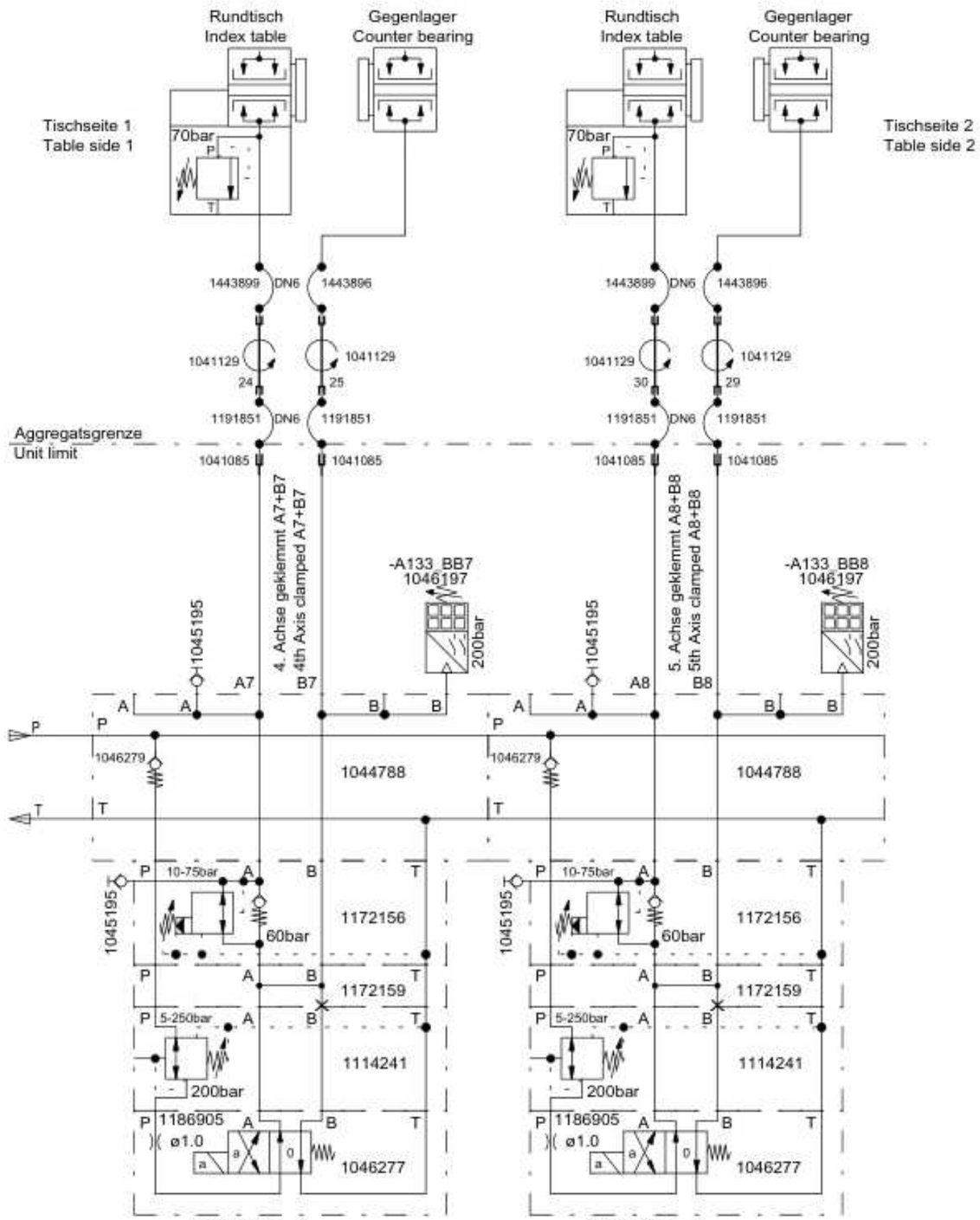

4. Achse loesen A7+B7
4th axis unclamp A7+B7

5. Achse loesen A8+B8
5th Axis unclamp A8+B8

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series

	Aenderungen / Modifications	Datum / Date	Name / Name
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b			
a			

Ursprung Source | Auftrag / Order | Massstab / Scale

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E/A-Module / I/O-Modules	I/O-MODULE	Aend.-Nr./Modific. no.			5000001131269

Dokument kunde / Document customer | Inv.-Nr. Kunde/Inv. no. customer

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Benennung/Title
Steuerblockverkettung
Interlinking control block
Erg.-Benennung/Additional title

Dokument / Document	Teil-Dok. / Doc.-part	Version / Version
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Status/Status FR	Blatt/Sheet	4
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