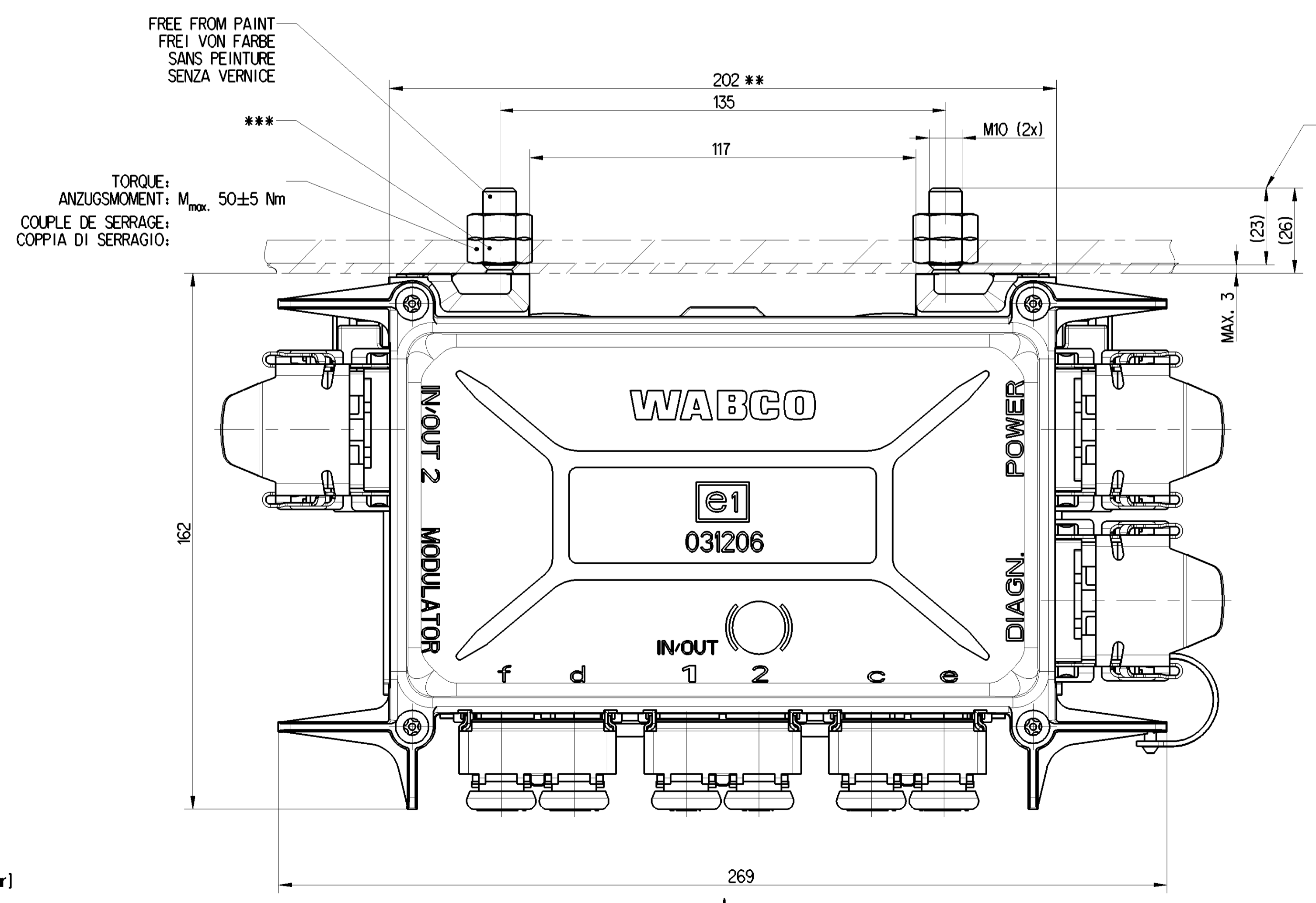
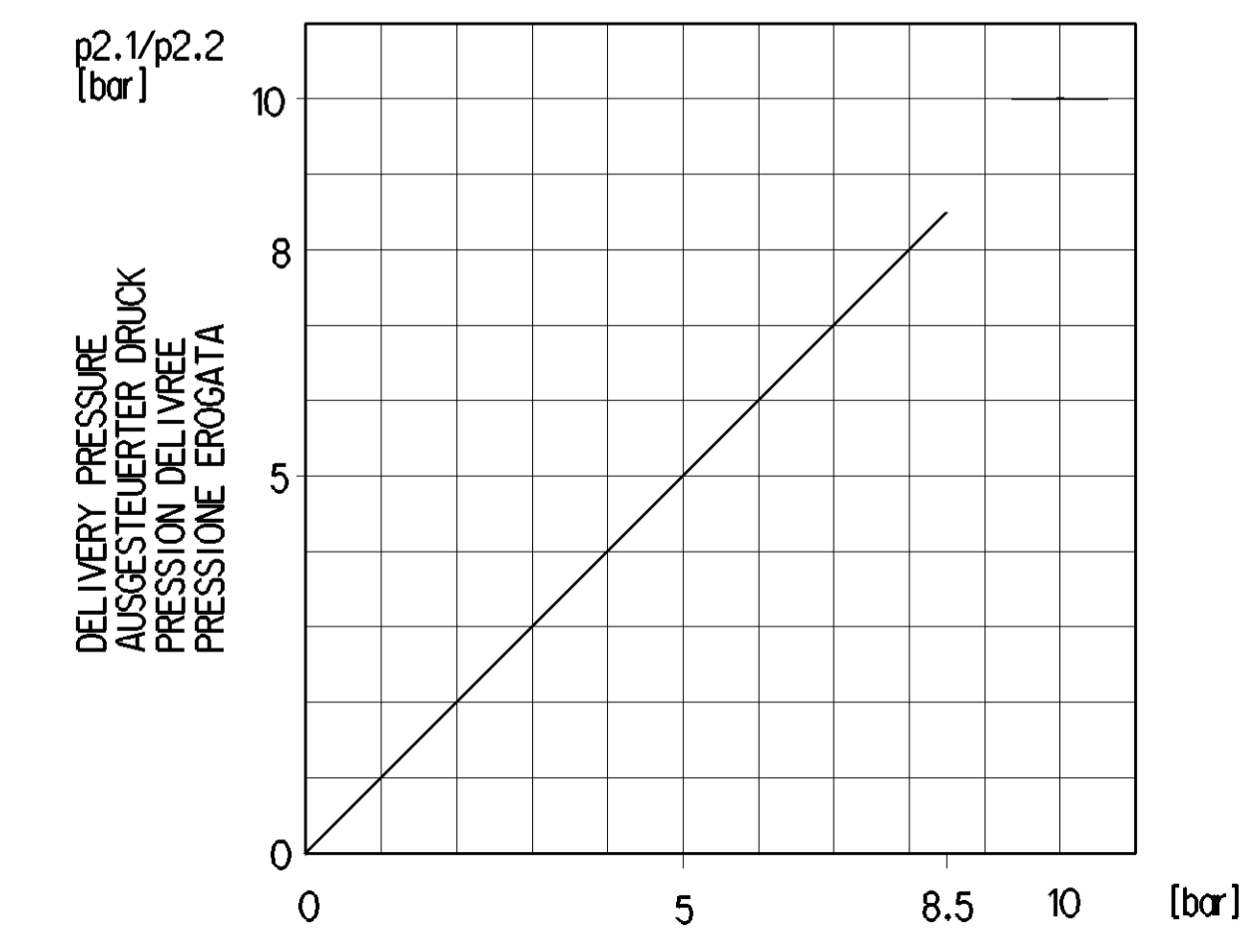


- * TORQUE: ANZUGSMOMENT: $M_{max} = 53\text{Nm}$ LENGTH OF ENGAGEMENT: EINSCHRAUBLÄNGE: max. 12mm
 COUPLE DE SERRAGE: LONGUEUR EN PRISE:
 COPPIA DI SERRAGGIO: LUNGHEZZA IN PRESA;
- ** INSTALLATION RESTRICTION: NO RECESSES PERMITTED IN THE MOUNTING AREA OF THE DEVICE
 EINBAUBESCHRÄNKUNG: IM BEREICH DER GERÄTEBEFESTIGUNG
 RESTRICTION D'INSTALLATION: KEINE AUSPARUNGEN ZULAESSIG
 LIMITAZIONE DI MONTAGGIO: CAVITÈ NON AMMESSE NELLA ZONA DI FISSAGGIO DEL L'APPARECCHIO
- *** HEXAGON NUT, SEALING RING AND SCREW PLUG SUPPLIED UNASSEMBLED
 SECHSKANTMUTTER, DICHTRING UND VERSCHLUSSSCHRAUBE LOSE MITGELIEFERT
 EROU HEXAGONAL, JOINT D'ETANCHEITE ET BOUCHON FILETE: LIVRAISON DETACHEE
 DADO ESAGONALE, ROSETTA PER GUARNIZIONE E TAPPO FILETTATO, CONSEGNA SEPARATO
- **** ON EACH SIDE OF THE TRAILER THE BRAKE CYLINDERS AND THE SENSORS SHALL BE CONNECTED EXCLUSIVELY TO THAT MODULATOR SIDE WHICH POINTS TOWARDS THE SAME SIDE OF THE TRAILER (SEE SHEET 2, DETAIL X)
- BREMSZYLINDER UND SENSOREN DER JEWEILIGEN ANHAENGERSEITE SIND AUSSCHLIESSLICH MIT DER ZUGEWANDTEN MODULATORSEITE ZU VERBINDEN (SIEHE AUCH BLATT 2, EINZELHEIT X)
- SUR CHAQUE COTE DU REMORQUE, LES CYLINDRES DE FREIN ET LES CAPTEURS DOIVENT ETRE RELIES AVEC LE MEME COTE DU MODULATEUR SEULEMENT (VOIR FEUILLE 2, DETAIL X)
- SU CIASCUN LATO DEL RIMORCHIO, I CILINDRI DI FRENO ED I SENSORI DEVONO ESSERE COLLEGATI ALLO STESSO LATO DEL MODULATORE (VEDERE FOGLIO 2, PARTICOLARE X)
- ***** PERMISSIBLE INSTALLATION POSITION: ZULAESSIGE EINBAULAGE: +180°
 POSITION D'INSTALLATION ADMISE: POSIZIONE DI MONTAGGIO AMMESSA:

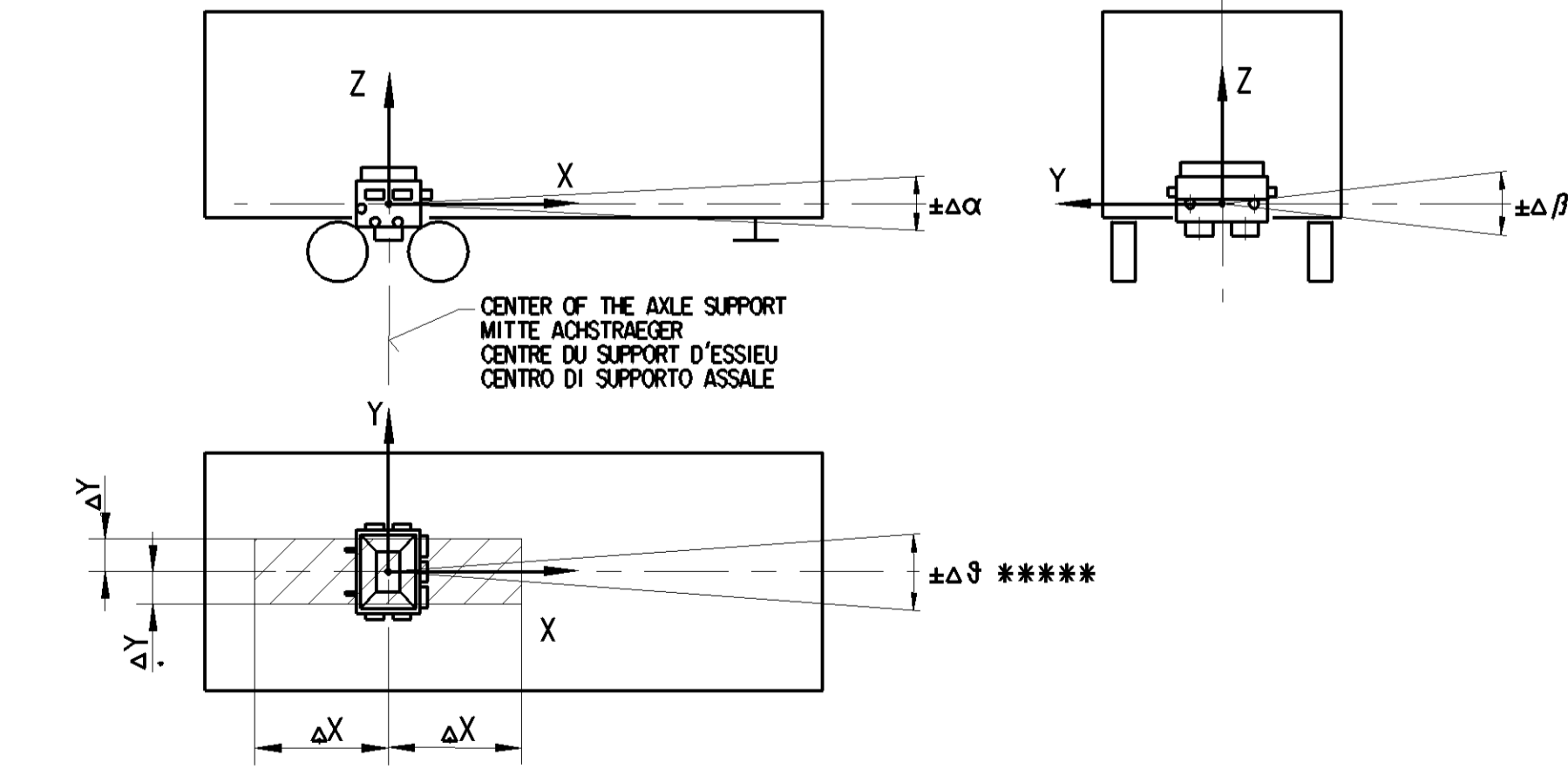


TORQUE: ANZUGSMOMENT: $M_{max} = 50 \pm 5\text{ Nm}$
 COUPLE DE SERRAGE:
 COPPIA DI SERRAGGIO:

FULL THREAD LENGTH
 NUTZBARE GEWINDLÄNGE
 LONGUEUR DE FILETAGE UTILE
 LUNGHEZZA UTILE



BRAKE VALUE
 BREMSWERT
 VALEUR DE FREINAGE
 VALORE DI FENATURA

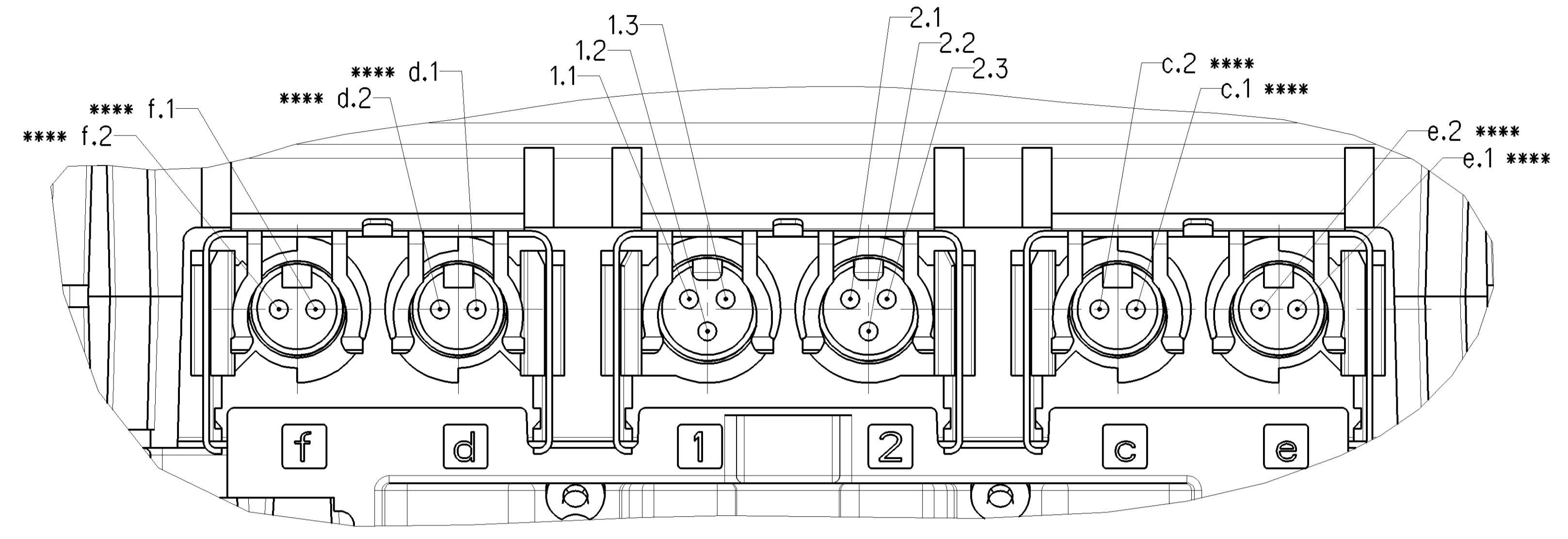


	ΔX (mm)	ΔY (mm)	$\Delta \alpha$ (°)	$\Delta \beta$ (°)	$\Delta \gamma$ (°)	*****
480 102 020 0	-	-	±15	±15	±15	
480 102 020 0 RSS	2000	500	±15	±3	±3	

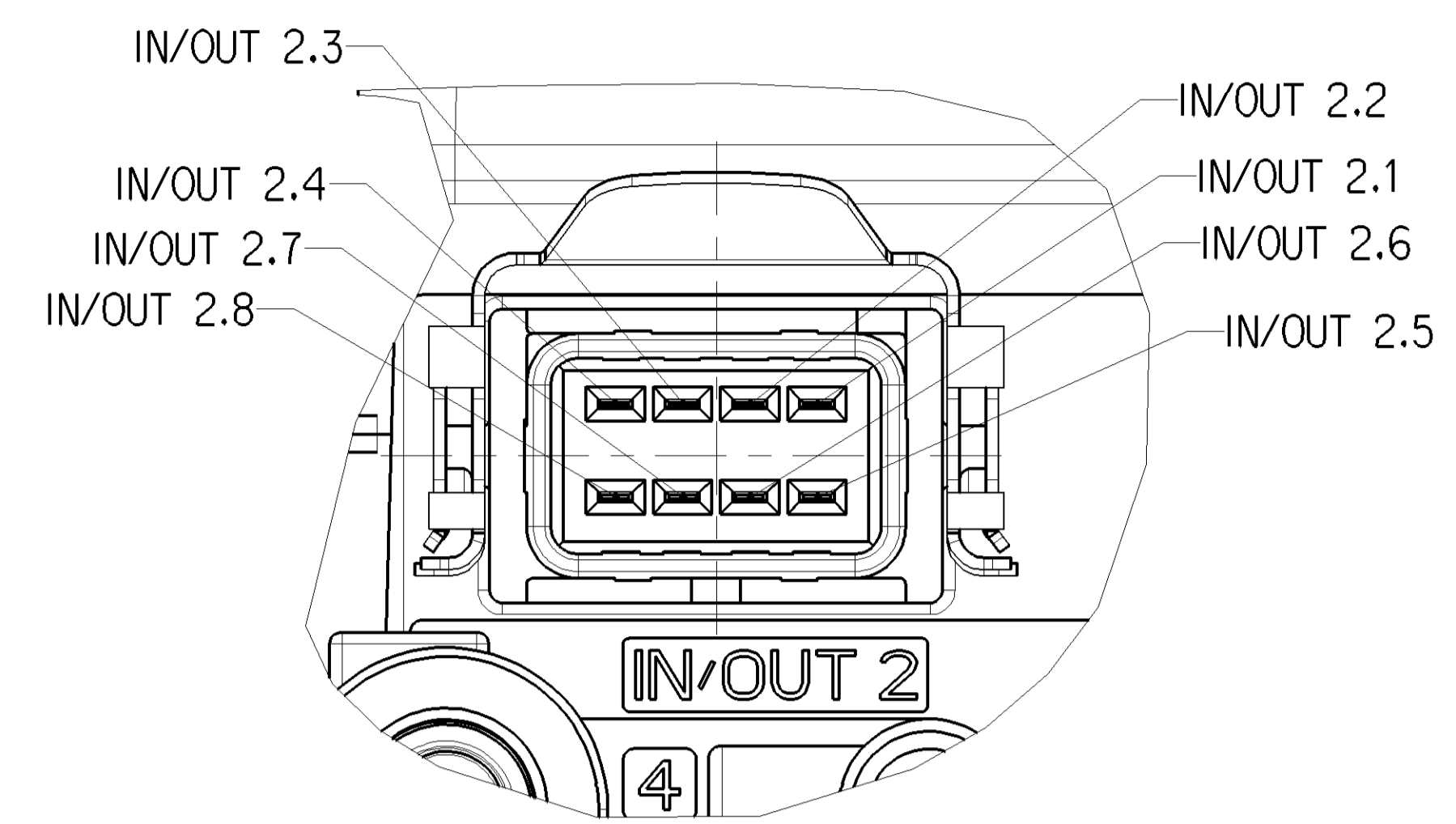
INSTALLATION RESTRICTION:
 EINBAUBESCHRÄNKUNGEN:
 RESTRICTION D'INSTALLATION:
 LIMITAZIONE DI MONTAGGIO:

General Specifications ISO 8015, ISO 554-1, Size ISO 14405 LF		Copyright WABCO		WABCO	
Further Technical Data: 480 102 020 0		Date: 2022-07-26		EBS Trailer Modulator 12V	
Doc. Code: 0205		Sheet: 1 To: 28		Doc. Code: Language: User:	
General Tolerances ISO 2001		2022-07-26 Zyggalo		Doc. Code: Language: User:	
Range of nominal dimensions in mm		2022-07-26 Kaufmann		Doc. Code: Language: User:	
Class	tt	± 0.1	± 0.15	± 0.2	± 0.3
Free		± 0.05	± 0.1	± 0.15	± 0.2
Medium	X	± 0.1	± 0.2	± 0.3	± 0.4
Coarse		± 0.2	± 0.3	± 0.4	± 0.5
Tapped Holes acc.:		1:1		480 102 020 0	
A 0		CREO		005 ML 1/2	

X
2:1
SEE SHEET 1; SIEHE BLATT 1; VOIR FEUILLE 1; VEDERE FOGLIO 1
VIEW SHOWN WITHOUT PROTECTION CAP
ANSICHT DARGESTELLT OHNE SCHUTZKAPPE 441 032 043 4 UND 441 032 044 4
VUE SANS CAPUCHON PROTECTEUR
VISTA SENZA PROTETTORE



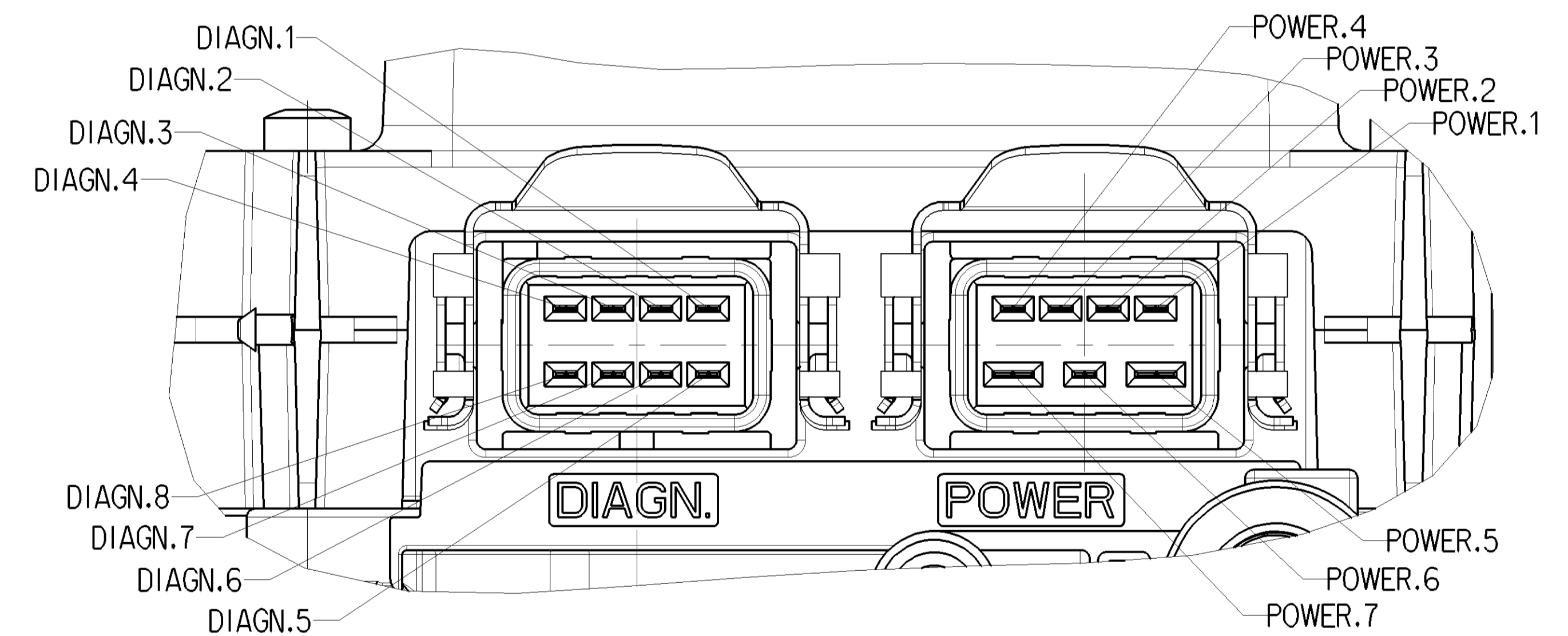
Y
2:1
SEE SHEET 1; SIEHE BLATT 1; VOIR FEUILLE 1; VEDERE FOGLIO 1
VIEW SHOWN WITHOUT CONNECTOR HOUSING
ANSICHT DARGESTELLT OHNE STECKERGEHÄUSE 894 110 139 2
VUE SANS BOÎTE DE RACCORDEMENT
VISTA SENZA INVOLUCRO DAL SPINA



PORT ANSCHLUSS PORT ATTACCO	FUNCTION FUNKTION FONCTION FUNZIONE
1	SUPPLY OF ENERGY; ENERGIEZUFUSS VOM VORRAT; ALIMENTATION; ALIMENTAZIONE
2.1	DELIVERY OF ENERGY; ENERGIEABFLUSS; UTILISATION; MANDATA
3.1	EXHAUST PORT; ANSCHLUSS ATMOSPHAERE; CONNECTION D'ÉCHAPPEMENT; CONNESSIONE SCARICO
4	CONTROL PORT; STEUERANSCHLUSS; ORIFICE DE COMMANDE; ORIFIZIO DI COMANDO
5	AIR-SUSPENSION BELLOWS; LUFFEDERBALG; COUSSIN DE SUSPENSION PNEUMATIQUE; SOFFIETTO A SOSPENSIONE PNEUMATICA
MODULATOR	
d	X7, X8: WHEEL SPEED SENSOR; RADDREHZAHLSSENSOR; CAPTEUR DE VITESSE DE ROUE; SENSOR DI VELOCITA ROUTA
d.1	c.1 SENSOR IG
d.2	c.2 SENSOR IGM
f	X9, X10: WHEEL SPEED SENSOR; RADDREHZAHLSSENSOR; CAPTEUR DE VITESSE DE ROUE; SENSOR DI VELOCITA ROUTA
f.1	e.1 SENSOR IG
f.2	e.2 SENSOR IGM
MAIN AXLS HAUPTACHSE ESSIEU PRINCIPAL ASSE PRINCIPALE	
1	X5: IN/OUT 1; EINGANG/AUSGANG 1; ENTREE/SORTIE 1; ENTRATA/USCITA 1
1.1	PLUS SWITCH PORT 5; PLUS SCHALTAUSGANG 5; PLUS CONTACTEUR PILOTAGE 5; PLUS INTERRUPTORE COMANDO 5
1.2	GND ELECTROVALVE; GND ELEKTROVENTIL; GND ELECTROVALVE; GND ELETTROVALVOLA
1.3	MULTIFUNCTION INPUT; MULTIFUNKTIONSEINGANG; ENTREE MULTIFONCTION; INGRESSO MULTIFUNZIONE
2	X6: LINING WEAR SENSOR; VERSCHLEISSSENSOR; CAPTEUR DE USURE (DE PLAQUETTE); SENSORI USURE (RIVESTIMENTO)
2.1	PLUS LINING WEAR SENSOR; PLUS VERSCHLEISSSENSOR; PLUS CAPTEUR DE USURE (DE PLAQUETTE); PLUS SENSORI USURE (RIVESTIMENTO)
2.2	GND LINING WEAR SENSOR; GND VERSCHLEISSSENSOR; GND CAPTEUR DE USURE (DE PLAQUETTE); GND SENSORI USURE (RIVESTIMENTO)
2.3	LINING WEAR SENSOR VALUE; VERSCHLEISSSENSORWERT; VALEUR DE CAPTEUR DE USURE (DE PLAQUETTE); VALORE DI SENSORI USURE (RIVESTIMENTO)

IN/OUT 2	X3: IN/OUT 2; EINGANG/AUSGANG 2; ENTREE/SORTIE 2; ENTRATA/USCITA 2
IN/OUT 2.1	PLUS SWITCH PORT 3; PLUS SCHALTAUSGANG 3; PLUS CONTACTEUR PILOTAGE 3; PLUS INTERRUPTORE COMANDO 3
IN/OUT 2.2	GND ELECTROVALVE; GND ELEKTROVENTIL; GND ELECTROVALVE; GND ELETTROVALVOLA
IN/OUT 2.3	ANALOGUE INPUT 0V TO 5V; ANALOGEINGANG 0V BIS 5V; ENTREE ANALOGIQUE 0V A 5V; ENTRADA ANALOGICA 0V A 5V
IN/OUT 2.4	PLUS SUB-SYSTEM (TELEMATICS); PLUS UNTERSISTEM (TELEMATIK); PLUS SOUS-SYSTEME (TELEMATIQUE); PLUS SOTTOSISTEMA (TELEMATICA)
IN/OUT 2.5	PLUS SUB-SYSTEM (IVTM); PLUS UNTERSISTEM (IVTM); PLUS SOUS-SYSTEME (IVTM); PLUS SOTTOSISTEMA (IVTM)
IN/OUT 2.6	GND ELECTROVALVE; GND ELEKTROVENTIL; GND ELECTROVALVE; GND ELETTROVALVOLA
IN/OUT 2.7	CAN-H (ISO 11898) (5V)
IN/OUT 2.8	CAN-L (ISO 11898) (5V)

Z
2:1
SEE SHEET 1; SIEHE BLATT 1; VOIR FEUILLE 1; VEDERE FOGLIO 1
VIEW SHOWN WITHOUT CONNECTOR HOUSING
ANSICHT DARGESTELLT OHNE STECKERGEHÄUSE 894 110 141 2 UND 894 110 139 2
VUE SANS BOÎTE DE RACCORDEMENT
VISTA SENZA INVOLUCRO DAL SPINA



DIAGN	X2: DIAGNOSIS; DIAGNOSE; DIAGNOSTIC; DIAGNOSI
DIAGN.1	DIAGNOSTIC LINE K; DIAGNOSE LEITUNG K (ISO 14230); LINE K DIAGNOSTIC; LINEA K DIAGNOSI
DIAGN.2	PLUS SWITCH PORT 4; PLUS SCHALTAUSGANG 4; PLUS CONTACTEUR PILOTAGE 4; PLUS INTERRUPTORE COMANDO 4
DIAGN.3	GND ELECTROVALVE; GND ELEKTROVENTIL; GND ELECTROVALVE; GND ELETTROVALVOLA
DIAGN.4	PLUS SWITCH PORT 2; PLUS SCHALTAUSGANG 2; PLUS CONTACTEUR PILOTAGE 2; PLUS INTERRUPTORE COMANDO 2
DIAGN.5	24 N INPUT; 24 N EINGANG; 24 N ENTREE; 24 N ENTRADA
DIAGN.6	PLUS SUBSYSTEM ELM; PLUS UNTERSISTEM ELM; PLUS SOUS-SYSTEME ELM; PLUS SOTTOSISTEMA ELM
DIAGN.7	GND ELECTROVALVE; GND ELEKTROVENTIL; GND ELECTROVALVE; GND ELETTROVALVOLA
DIAGN.8	PLUS SWITCH PORT 1; PLUS SCHALTAUSGANG 1; PLUS CONTACTEUR PILOTAGE 1; PLUS INTERRUPTORE COMANDO 1

POWER	X1: POWER SUPPLY; SPANNUNGSVERSORGUNG; ALIMENTATION ELECTRIQUE; ALIMENTAZIONE ELETTRICA
POWER.1	CAN-L (ISO 11992) (12V)
POWER.2	CAN-H (ISO 11992) (12V)
POWER.3	WARNING LAMP; WARNLAMPE; LAMPE TEMOIN; LUCE SPIA
POWER.4	GND ELECTRONIC; GND ELEKTRONIK; GND ELECTRONIQUE; GND ELETTRONICA
POWER.5	GND ELECTROVALVE; GND ELEKTROVENTIL; GND ELECTROVALVE; GND ELETTROVALVOLA
POWER.6	PLUS ELECTRONIC; PLUS ELEKTRONIK; PLUS ELECTRONIQUE; PLUS ELETTRONICA
POWER.7	PLUS ELECTROVALVE; PLUS ELEKTROVENTIL; PLUS ELECTROVALVE; PLUS ELETTROVALVOLA

FURTHER TECHNICAL DATA SEE PRODUCT SPECIFICATION;
WEITERE TECHNISCHE DATEN SIEHE PRODUKTSPEZIFIKATION;
POUR AUTRES DONNEES TECHNIQUES VOIR SPECIFICATION PRODUIT;
PER ULTERIORI DATI TECNICI VEDERE SPECIFICA DI PRODOTTO;

- 1.1 WORKING MEDIUM: AIR (CONTAINING WATER, OIL AND ALCOHOL)
ARBEITSMEDIUM: LUFT (WASSER-, ÖL UND ALKOHOLHALTIG)
FLUIDE D'UTILISATION: AIR (CHARGE D'EAU, D'HUILE ET D'ALCOOL)
FLUIDO DI ESERCIZIO: ARIA (CONTENENTE ACQUA, OLIO E ALCOL)
- 1.2 AMBIENT MEDIUM: AIR (CONTAINING WATER, SALT, DUST AND OIL)
UMGEBUNGSMEDIUM: LUFT (WASSER-, SALZ-, STAUB- UND ÖLHALTIG)
FLUIDE AMBIANTE: AIR (CHARGE D'EAU, DE SEL, DE POUSSIERE ET D'HUILE)
FLUIDO AMBIENTE: ARIA (CONTENENTE ACQUA, SALE, POLVERO E OLIO)
- 2.1 THERMAL RANGE OF APPLICATION UNDER NORMAL AMBIENT CONDITIONS:
THERMISCHER ANWENDUNGSBEREICH UNTER NORMALEN UMGEBUNGSBEDINGUNGEN: -40°C ... +65°C
GAMME D'APPLICATION THERMIQUES DANS LES CONDITIONS AMBIANTES NORMALES: -40°F ... +149°F
CAMPUS TERMICA DI APPLICAZIONE NELLE NORMALI CONDIZIONI AMBIENTALI:
- 2.2 SHORT-TIME RESISTANCE TO HEAT:
KURZZEITIGE WÄRMEBESTAENDEIGKEIT: max. 90°C / 194°F WITHOUT FUNCTION
RESISTANCE THERMIQUE TEMPORAIRE: max. 100°C / 212°F (2h) OHNE FUNKTION
RESISTENZA TERMICA PER BREVE PERIODO: SENZA FUNZIONE
- 3.1 WORKING PRESSURE (SUPPLY):
BETRIEBSDRUCK (VORRAT): P₁ = 8.5 bar / 123 PSI
PRESSION D'UTILISATION (ALIMENTATION):
PRESSIONE DI ESERCIZIO (ALIMENTAZIONE):
- 3.2 MAX. PERMISSIBLE WORKING PRESSURE (SUPPLY):
MAX. ZULASSIGER BETRIEBSDRUCK (VORRAT): P₁ = 10 bar / 145 PSI
PRESSION D'UTILISATION MAX. ADMISSIBLE (ALIMENTATION):
PRESSIONE DI ESERCIZIO MAX. AMMISSIBILE (ALIMENTAZIONE):

- 4 MIN. FLOW PASSAGE / NOMINAL DIAMETER:
MIN. DURCHFLOSSEFFNUNG / NENNWEITE:
MIN. ORIFICE CALIBRE / DIAMETRE NOMINAL:
MIN. PASSAGGIO LIBERO / DIAETRO NOMINALE:
- PORT ANSCHLUSS 1, 2.1-2.2, 3.1-3.2 : 115 mm² / NW 12
ORIFICE ORIFIZIO
- PORT ANSCHLUSS 2.1 (M16x1.5): 25mm² / NW 6
ORIFICE ORIFIZIO
- PORT ANSCHLUSS 4: 1.8 mm² / NW 1.5
ORIFICE ORIFIZIO
- 5 VOLTAGE TERMINAL:
SPANNUNG ANSCHLUSS POWER.5 / POWER.7: 12+/-3.5V
TENSION BORNE:
TENSIONE TERMINALE:
- 6 DEGREE OF PROTECTION:
SCHUTZART: IEC 60529 COMPLETE DEVICE WITH MOUNTED PLUG;
DEGREE OF PROTECTION: APPAREIL COMPLET AVEC LE FIGE MONTE; IP 66
GRADO DI PROTEZIONE: APPARECCHIO COMPLETO CON SPINA TO MONTATO;
- 7 INSTALLATION INSTRUCTION:
INSTALLATIONSHINWEIS: PARAMETER SETTING REQUIRED DURING INITIAL INSTALLATION
INDICATION POUR L'INSTALLATION: PARAMETRAGE REQUIS LORS DE L'INSTALLATION INITIALE
INDICAZIONE DI MONTAGGIO: PARAMETRIZZAZIONE RICHIESTA DURANTE INSTALLAZIONE INIZIALE

*** ON EACH SIDE OF THE TRAILER THE BRAKE CYLINDERS AND THE SENSORS SHALL BE CONNECTED EXCLUSIVELY TO THAT MODULATOR SIDE WHICH POINTS TOWARDS THE SAME SIDE OF THE TRAILER (SEE SHEET 1)

BREMSSZYLINDER UND SENSOREN DER JEWEILIGEN ANHAENGERSEITE SIND AUSSCHLIESSLICH MIT DER ZUGEWANDTEN MODULATORSEITE ZU VERBINDEN (SIEHE AUCH BLATT 1)

SUR CHAQUE COTE DU REMORQUE, LES CYLINDRES DE FREIN ET LES CAPTEURS DOIVENT ETRE RELIES EXCLUSIVEMENT A CE COTE DU MODULATEUR (VOIR FEUILLE 1)

SU CIASCUN LATO DEL RIMORCHIO, I CILINDRI DI FRENO ED I SENSORI DEVONO ESSERE COLLEGATI ALLO STESSO LATO DEL MODULATORE (VEDERE FOGLIO 1)

General Specification: ISO 8015, 4E5-334-1, Size ISO 14405 (F)
Further Technical Data: 480 102 020 0
Doc. Code: 0205 Sheet: 1 To: 28
Date: 2022-07-26
Zyggabo
2022-07-28
Kaufmann
EBS Trailer Modulator 12V
480 102 020 0
005 ML 2/2
A 0 ORO 5048 G 6871