

POSITAPE®

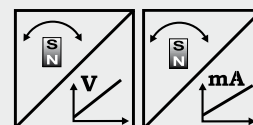
WB25

Analog Output



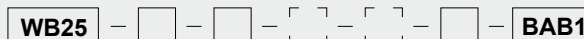
Position sensor with measuring tape

- Protection class IP64 (IP67)
- Measurement range 0 ... 12000 mm to 0 ... 25000 mm
- Steel measuring tape
- Analog output
- Redundant version on request



Specifications	Outputs	U2	Voltage 0.5 ... 10 V
		U8	Voltage 0.5 ... 4.5 V
	I1	Current 4 ... 20 mA, 3 wire	
	Resolution		0.05 mm
	Linearity		±0.05 % f.s.
	Sensing device		Magnetic encoder
	Material		Aluminium, stainless steel and plastic; Tape: stainless steel, 10 mm wide, 0.08 mm thick
	Protection class		IP64 (IP67)
	Connection		Cable output, standard length 2 m
	Shock		EN 60068-2-27:1993, 100 g/11 ms, 100 shocks
	Vibration		EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles
	EMC, temperature		Refer to output specification

Order code WB25



Model name

Measurement range (in mm)

12000 / 15000 / 20000 / 25000

Output 1

U2 = 0.5 ... 10 V signal conditioner

U8 = 0.5 ... 4.5 V signal conditioner

I1 = 4 ... 20 mA signal conditioner

Output scalable (as option)

PMU

Output 2 (as option)

Identical to output 1

Connection

KAB2M = Cable output, standard length 2 m

Dust wiper

BAB1

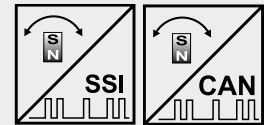
Order example: WB25 - 12000 - I1 - KAB2M - BAB1

POSITAPE®
WB25
Digital Output



Position sensor with measuring tape

- Protection class IP64 (IP67)
- Measurement range 0 ... 12000 mm to 0 ... 25000 mm
- Steel measuring tape
- SSI output or
**CANopen output or
 CAN SAE J1939 output**
- Redundant version on request



Specifications	Outputs	Synchronous serial output (SSI) CANopen output CAN SAE J1939 output
	Resolution	0.05 mm
	Linearity	±0.05 % f.s.
	Sensing device	Magnetic encoder
	Material	Aluminium, stainless steel and plastic; Tape: stainless steel, 10 mm wide, 0.08 mm thick
	Protection class	IP64 (IP67)
	Connection	Cable output, standard length 2 m
	Shock	EN 60068-2-27:1993, 100 g/11 ms, 100 shocks
	Vibration	EN 60068-2-6:1995, 20 g 10 Hz-2 kHz, 10 cycles
	EMC, temperature	Refer to output specification

Order code WB25



Model name

Measurement range (in mm)

12000 / 15000 / 20000 / 25000

Output 1

MSSI = SSI synchronous serial

MCANOP = CANopen

MCANJ1939 = CAN SAE J1939

Output 2 (as option)

Identical to output 1

Connection

KAB2M = Cable output, standard length 2 m

Dust wiper

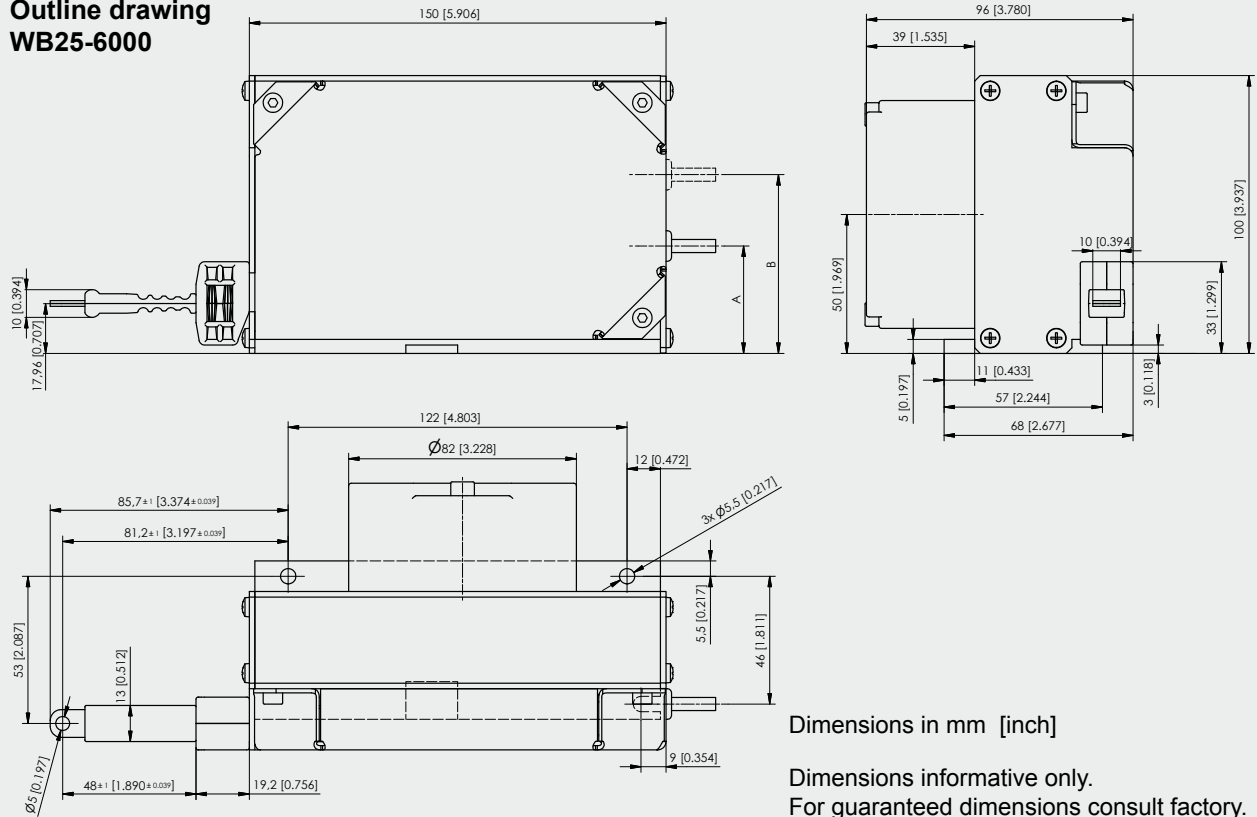
BAB1

Order example: WB25 - 12000 - MSSI - KAB2M - BAB1

POSITAPE® WB25 Analog or Digital Output



Outline drawing
WB25-6000



Dimensions in mm	Version	A	B
	Standard	51.5	–
	Redundant	38.65	64.35

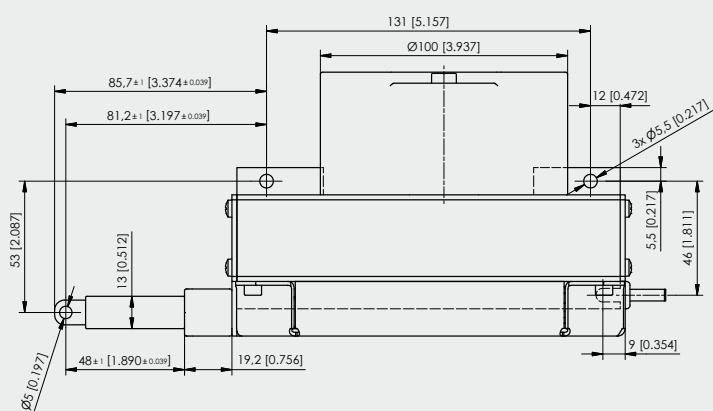
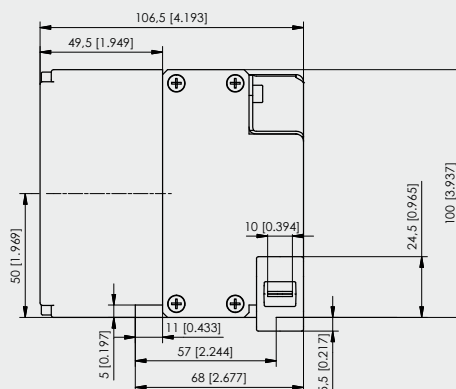
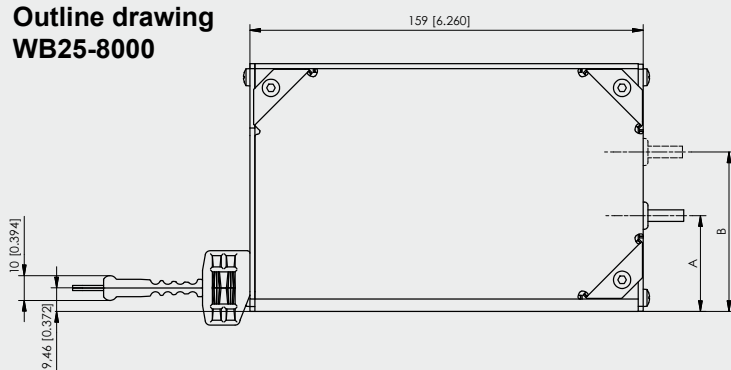
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WB25

Analog or Digital Output



Outline drawing
WB25-8000



Dimensions in mm [inch]

Dimensions informative only.
For guaranteed dimensions consult factory.

Dimensions in mm	Version	A	B
	Standard	51.5	—
	Redundant	38.65	64.35

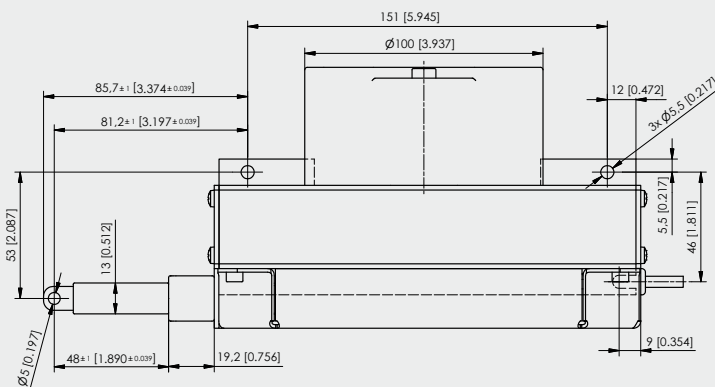
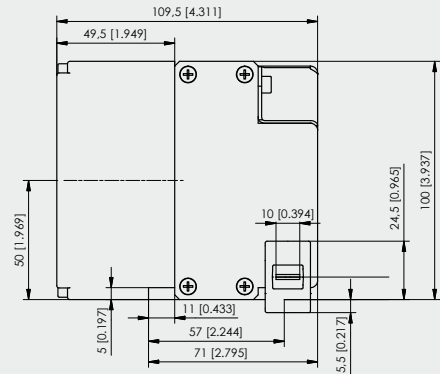
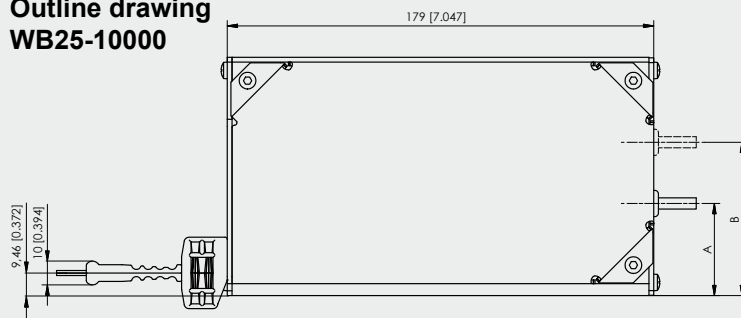
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WB25

Analog or Digital Output



Outline drawing
WB25-10000



Dimensions in mm [inch]

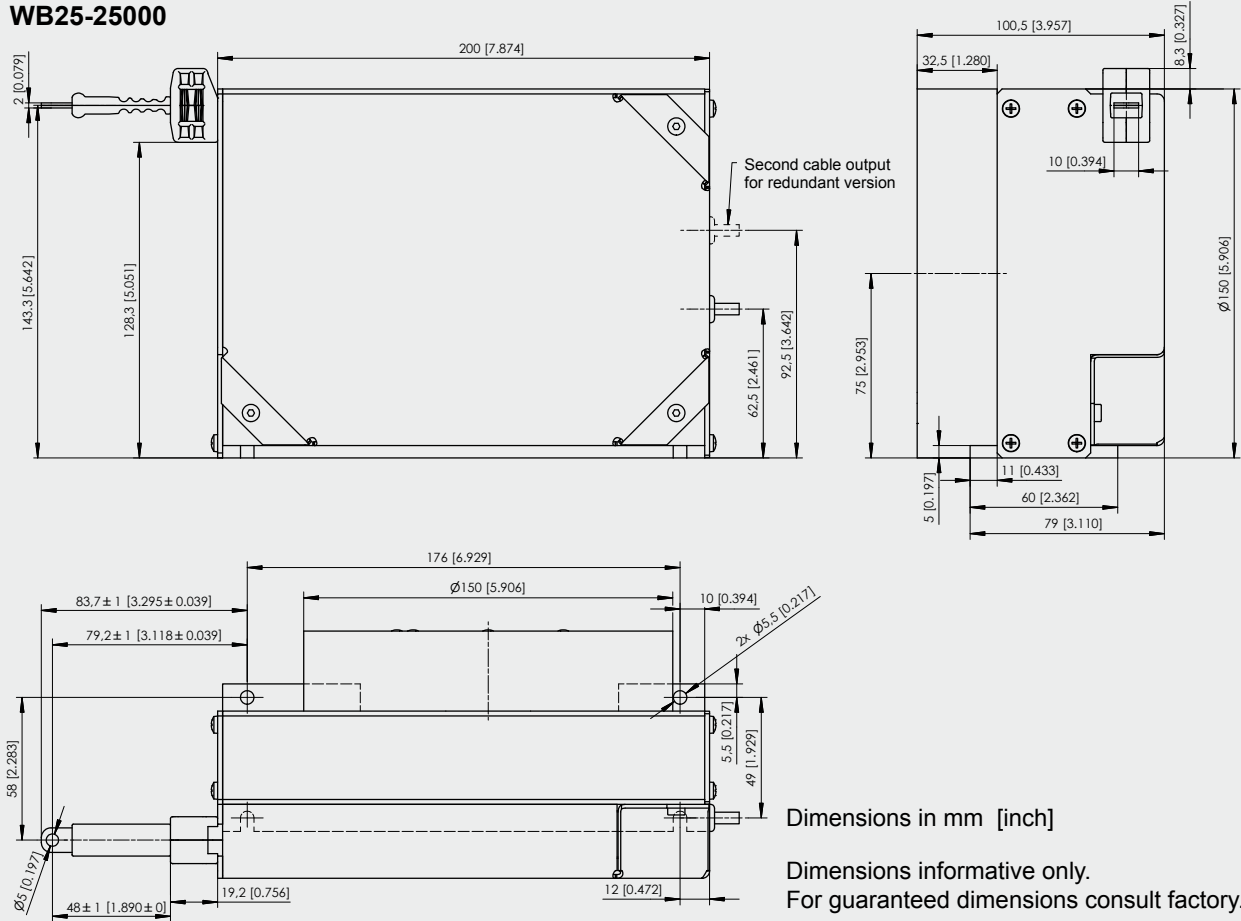
Dimensions informative only.
For guaranteed dimensions consult factory.

Dimensions in mm	Version	A	B
	Standard	51.5	—
	Redundant	38.65	64.35

POSITAPE®
WB25
Analog or Digital Output



Outline drawing
WB25-12000
WB25-15000
WB25-20000
WB25-25000

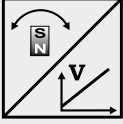
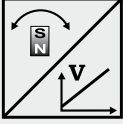
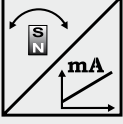


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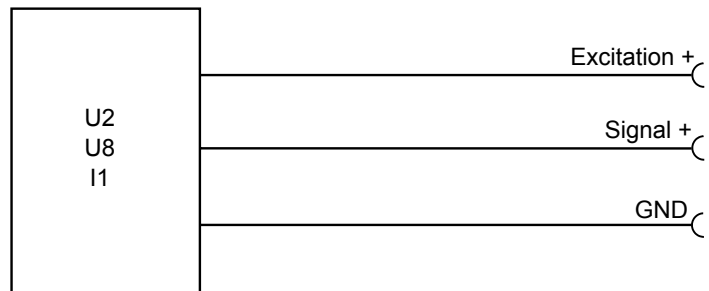
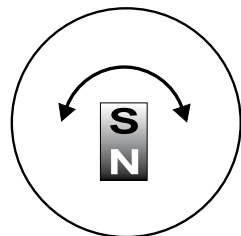
U2, U8 and I1

Analog Outputs



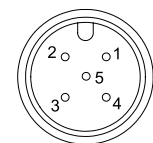
U2 Voltage output 0.5 ... 10 V 	Excitation voltage	18 ... 36 V DC
	Excitation current	25 mA typ.
	Output voltage	0.5 ... 10 V DC
	Output current	2 mA max.
	Measuring rate	1 kHz standard
	Stability (temperature)	$\pm 50 \times 10^{-6} / ^\circ\text{C}$ f.s. (typ.)
	Protection	Reverse polarity, short circuit
	Operating temperature	-20 ... +85 °C (optional -40 ... +85 °C)
EMC	EN61326-1:2006	
U8 Voltage output 0.5 ... 4.5 V 	Excitation voltage	10 ... 36 V DC
	Excitation current	25 mA typ.
	Output voltage	0.5 ... 4.5 V DC
	Output current	2 mA max.
	Measuring rate	1 kHz standard
	Stability (temperature)	$\pm 50 \times 10^{-6} / ^\circ\text{C}$ f.s. (typ.)
	Protection	Reverse polarity, short circuit
	Operating temperature	-20 ... +85 °C (optional -40 ... +85 °C)
EMC	EN61326-1:2006	
I1 Current output 4 ... 20 mA, 3 wire 	Excitation voltage	18 ... 36 V DC (10 ... 36 V for $R_L < 250 \Omega$)
	Excitation current	35 mA typ.
	Load	500 Ω max.
	Output current	4 ... 20 mA
	Measuring rate	1 kHz standard
	Stability (temperature)	$\pm 50 \times 10^{-6} / ^\circ\text{C}$ f.s. (typ.)
	Protection	Reverse polarity, short circuit
	Operating temperature	-20 ... +85 °C (optional -40 ... +85 °C)
EMC	EN61326-1:2006	

Output signals



Signal wiring/ connection	Output signal	Connector pin	Cable wire color
	Excitation +	1	Brown
	Signal	2	White
	GND	3	Blue
	Do not connect!	4	Black
	SPAN/ZERO (option PMU)	5	Grey

View to sensor
connector



CONN-M12-5F

Option -PMU

Programming of the start and end value by the customer

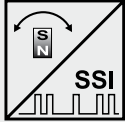
Programming of the start value and the end value of the output range is provided by a programming signal SPAN/ZERO available at the connector. This Signal SPAN/ZERO must be connected with GND via a push button, then position magnet of the sensor must be moved to the start resp. the end position. Pushing the button between 1 and 4 seconds sets the actual position as start position, pushing the button more than 5 seconds sets the actual position as end position. The values will be stored and are available after switching off the sensor.

To reset the sensor to the factory values the button must be pushed when the sensor is switched on.

POSITAPE® MSSI SSI Output

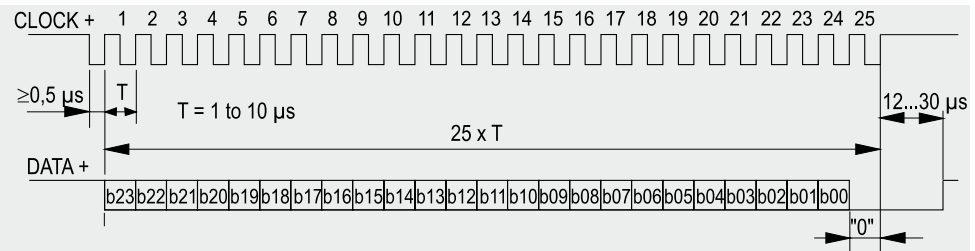


Interface MSSI Synchronous serial

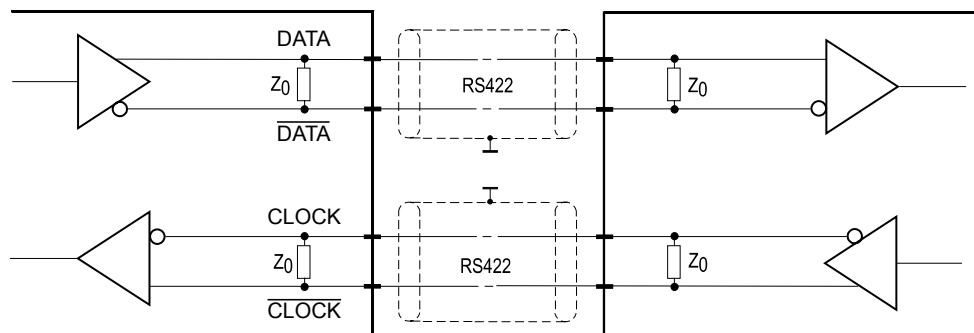


Interface	EIA RS-422
Excitation voltage	8 ... 36 V DC
Excitation current	Typ. 19/35 mA for 24/12 V, 100 mA max.
Clock frequency	100 kHz ... 500 kHz
Code	Gray-Code, continuous progression
Delay between pulse trains	20 µs min.
Stability (temperature)	±50 x 10 ⁻⁶ / °C f.s. (typ.)
Operating temperature	-20 ... +85 °C (optional -40 ... +85 °C)
Protection	Short circuit
EMC	EN61326-1:2006

Data format (train of 26 pulses)



Recommended processing circuit



Transmission rate

Cable length	Baud rate
50 m	100-400 kHz
100 m	100-300 kHz

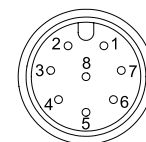
Note:
Extension of the cable length will reduce the maximum transmission rate.

Signal wiring

Signal name	Connector pin
Excitation +	1
Excitation GND	2
CLOCK	3
CLOCK	4
DATA	5
DATA	6

Connection

View to sensor
connector




CONN-M12-8F

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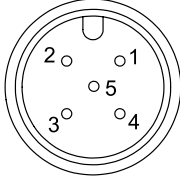
MCANOP

Output CANopen




Interface MCANOP 	Communication profile	CANopen CiA 301 V 4.02, Slave
	Encoder profile	Encoder CiA 406 V 3.2
	Error Control	Node Guarding, Heartbeat, Emergency Message
	Node ID	Adjustable via LSS; default: 127
	PDO	3 TxPDO, 0 RxPDO, no linking, static mapping
	PDO Modes	Event-/Time triggered, Remote-request, Sync cyclic/acyclic
	SDO	1 server, 0 client
	CAM	2 cams
	Certified	Yes
	Transmission rates	50 kbit to 1 Mbit, adjustable via LSS; default: 125 kbit
	Bus connection	M12 connector, 5 pins
	Integrated bus terminating resistor	No
	Bus, galvanic isolated	No

Specifications	Excitation voltage	8 ... 36 V DC
	Excitation current	Typ. 20/40 mA for 24/12 V, max. 100 mA
	Measuring rate	1 kHz (asynchronous)
	Stability (temperature)	$\pm 50 \times 10^{-6}$ / °C f.s.
	Repeatability	1 LSB
	Operating temperature	-20 ... +85 °C (optional -40 ... +105 °C)
	Protection	Reverse polarity, short circuit
	Dielectric strength	1 kV (V AC, 50 Hz, 1 min.)
	EMC	According to EN 61326-1:2006

Signal wiring / connection	Signal name	Connector pin no.	View to sensor connector 
	Shield	1	
	Excitation +	2	
	GND	3	
	CAN-H	4	
	CAN-L	5	

POSITAPE®
MMCANJ1939
Output CAN SAE J1939



Interface J1939 	CAN specification	ISO 11898, Basic and Full CAN 2.0 B
	Transceiver	24V-compliant, not isolated
	Communication profile	SAE J1939
	Baud rate	250 kbit/s
	Internal termination resistor	120 Ω
	Address	Default 247d, configurable

NAME Fields	Arbitrary address capable	1	Yes
	Industry group	0	Global
	Vehicle system	7Fh (127d)	Non specific
	Vehicle system instance	0	
	Function	FFh (255d)	Non specific
	Function instance	0	
	ECU instance	0	
	Manufacturer	145h (325d)	Manufacturer ID
	Identity number	0nnn	Serial number 21 bit

Parameter Group Numbers (PGN)	Configuration data	PGN EF00h	Proprietary-A (PDU1 peer-to-peer)
	Process data	PGN FFnnh	Proprietary-B (PDU2 broadcast); nn Group Extension (PS) configurable

Specifications	Excitation voltage	8 ... 36 V DC
	Excitation current	Typ. 20/40 mA for 24/12 V, max. 100 mA
	Measuring rate	1 kHz (asynchronous)
	Stability (temperature)	±50 x 10 ⁻⁶ / °C f.s.
	Repeatability	1 LSB
	Operating temperature	-20 ... +105 °C (optional -40 ... +105°)
	Protection	Reverse polarity, short circuit
	Dielectric strength	1 kV (V AC, 50 Hz, 1 min.)
EMC	EN 61326-1:2006	

Signal wiring / connection	Signal name	Connector pin no.
	Shield	1
	Excitation +	2
	GND	3
	CAN-H	4
	CAN-L	5

View to sensor connector

