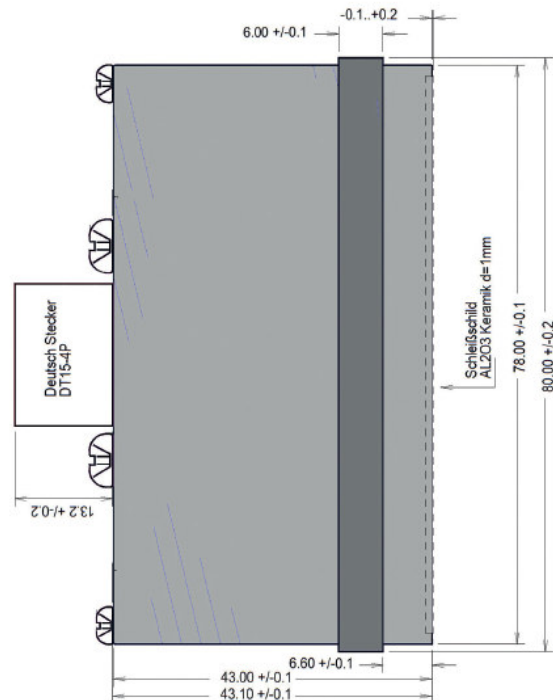


Technical data

Litronic-FMS planar sensor P80-CAN

Rev. 1_20200728



Reliable material moisture measurement

- Sensor for determining the electrical permittivity depending on material moisture content and density
- Signal transmission via CAN 2.0B
- Mean value and median filter
- Streaming technology

Sensor basic data

Diameter	mm	78,0
Housing height	mm	43,1
Height with socket	mm	56
Weight	kg	0,625
Housing material		Stainless steel 1.4305
Cover material		Stainless steel 1.4301
Material wear plate		Ceramic Al203
Process connection		Clamping flange
Protection class		IP68
Sensor replacement without new calibration		Yes
Determination of measured values		Digital
Technology		Streaming

Technical data

Litronic-FMS planar sensor P80-CAN

Sensor for moisture content

Measured value		Electrical permittivity with high resolution, depending on material moisture content and material density
Frequency	MHz	21-25
Capacity resolution	aF	200
Update cycle	ms	50
Operating temperature	°C	5-70
Temperature drift		≤ 10 measuring parts/K
Material penetration depth (depending on material)	cm	3-5 (influence of measuring parts decreases exponentially with depth)

Sensor for temperature

Measured value		1. Oscillator temperature 2. Shield temperature
Temperature resolution oscillator temperature	K	0,002
Temperature resolution output	K	0,01
Absolute measuring error oscillator temperature	K	2
Absolute measuring error shield temperature	K	0,1
Update cycle	ms	50
Measuring range	°C	-10 to 80

Measured value transmission

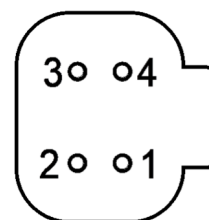
Bus type		CAN 2.0 B ISO 16845 certified
baud rate	bit/s	250 000
Transceiver		3.3-V, cross-wire protection, overvoltage protection up to +/- 36 V, loss of ground protection, over temperature (thermal shutdown) protection and common-mode transient protection of +/- 100 V
Bus termination		External, internal possible

Electrical connection

Supply voltage	V	12 (min/max 6-36)
Power consumption		0,3 A _{max} / 17 mA@12V
Reverse polarity protection		Yes

Connection

Connection	DEUTSCH DT 15-4P
0V/GnD	Pin 1
CAN-Low	Pin 2
CAN-High	Pin 3
+12V	Pin 4



Connector numbering Pins

Technical data

Litronic-FMS planar sensor P80-CAN

CAN Messages

Identifier Format	29-Bit-Identifier, Extended frame format
Data Length Code (DLC)	8
Identifier Messwerte	0x01505043
NTC1	Temperature electronic: Integer with 2 decimal places Display: °C + 40 °C
NTC2	Temperature behind ceramic: Integer with 2 decimal places Display: °C + 40 °C
C_Wert	Capacitance moisture sensor: Integer with 2 decimal places
Identifier request serial number	0x01505044, answer occur with serial number as CAN ID (request only within the first 10 seconds possible)
CAN message for serial number request	0x00 00 31 01 00 00 00 00

Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	Byte 7
NTC1		NTC2		C_Wert			
MSB	LSB	MSB	LSB	MSB			LSB