

2-WIRE TRANSMITTER-REPEATER



- Repeater for 2-wire transmitter 4...20mA
- Loop-powered 10...35 VDC
- Galvanically isolated 3.75 kVAC
- 1- and 2-channel versions
- Intrinsically safe [EEx ia] IIC
- For DIN rail mounting



Applications:

The PRetrans 5132 transmitter is ideal for galvanic isolation of 4...20 mA current signals from 2-wire transmitters. ● EEx versions may further be used as isolation barriers for transmitters installed in hazardous area zone 0,1, or 2.

Technical characteristics:

The voltages V_{supply} , $V_{transmitter}$ supply and V_{load} are floating. This means that a higher V_{supply} will cause a higher $V_{transmitter}$ supply. The listed voltages for transmitter supply are max. values.

Input / transmitter supply:

The transmitter supply is floating and dependent on V_{supply} , V_{load} (output) and V_{drop} isolator. The actual transmitter supply may be calculated by using this expression:

$$V_{transmitter\ supply} = V_{supply} - (V_{load} + V_{drop\ isolator}).$$

Output / supply:

The repeater output is supplied by the 2-wire connection from the external power supply or loop supply from the receiving equipment. The 4...20 mA signal, which is transferred from the transmitter, is repeated 1:1. By short-circuit of the input terminals the output current is limited to 40 mA. Max. output load is calculated after the following expression:

$$R_{load\ max} = \frac{V_{supply} - (V_{transmitter\ drop} + V_{drop\ isolator})}{0.02\ A}$$

Electrical specifications:

Specifications range:
(@ -20°C to +60°C)

Common specifications:

Supply voltage (VDC)	10...35 VDC
Vdrop standard.....	< 4 VDC
Vdrop EEx.....	< 8.5 VDC
Isolation, test / operation	3.75 kVAC / 250 VAC
Warm-up time.....	5 min.
Signal / noise ratio.....	> 60 dB (0...100 kHz)
Response time (0...90% / 100...10%)..	≈ 2 ms
Calibration temperature.....	20...28°C
Temperature coefficient.....	< ±0.01% of span / °C
Linearity error	< ±0.1% of span
Effect of V_{supply} change	≤ 0.005% of span / V
AC effect of ripple on V_{supply}	≤ 0.5% AC of span/VAC (@ 100 Hz)

Transmitter supply	
standard version.....	≤ 15 VDC (24Vsup. - 5 V load)
[EEx ia] version	≤ 10.5 VDC (24Vsup. - 5 V load)
EMC immunity influence	< ±0.5%
Wire size.....	1 x 2.5 mm ²
Screw terminal torque	0.5 Nm
Relative air humidity	< 95% RH (non-cond.)
Dimensions (HxWxD).....	109 x 23.5 x 130 mm
DIN rail.....	DIN 46277
Tightness (enclosure / terminals).....	IP50 / IP20
Weight	250 g

Input:

Measurement range	4...20 mA
Min. measurement range (span).....	16 mA

Output:

Signal range	4...20 mA
Min. signal range (span)	16 mA
Current limit.....	40 mA

Ex-data for 5132B:

UM.....	≤ 250 VAC
Umax.....	= 20 VDC
I _{max}	= 93 mA
L _{ext}	≤ 2.6 mH
C _{ext}	≤ 0.16 μF

EEx approval CENELEC:

DEMKO	95D.116819
	[EEx ia] IIC

Applicable in Zone 0,1, or 2

Observed authority requirements:

EMC 89/336/EEC, Emission.....	EN 50 081-1, EN 50 081-2
Immunity	EN 50 082-2, EN 50 082-1
Emission and immunity.....	EN 61 326
LVD 73/23/EEC.....	EN 61 010-1
PELV/SELV	IEC 364-4-41 and EN 60742
Ex 76/117/EEC	EN 50 014 and EN 50 020

Of span = Of the presently selected range

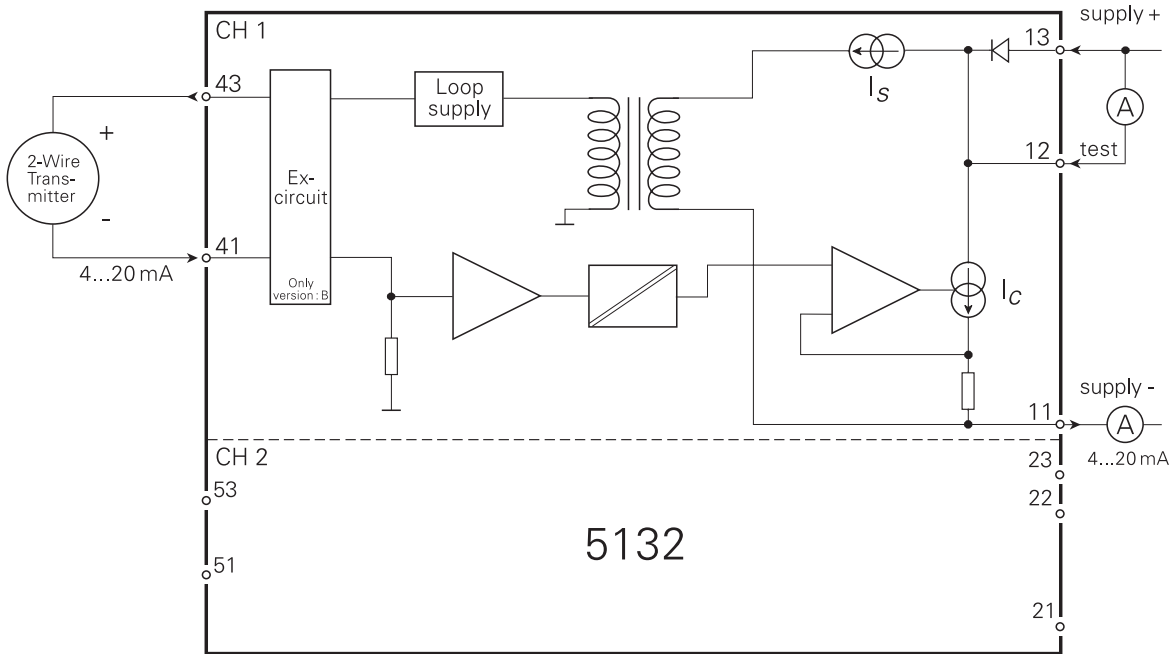


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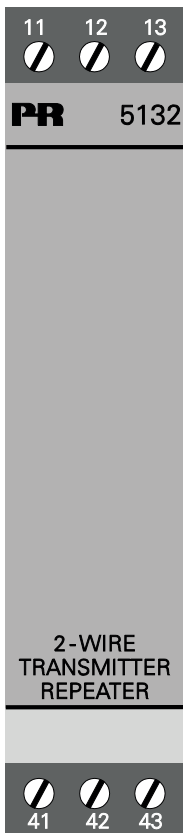
Order : 5132

Type	Version	Channels
5132	Standard : A	1 channel : 1
	[EEx ia] IIC : B	2 channels : 2

Block diagram:



Front layout:



Application:

