2-WIRE TRANSMITTER-REPEATER

- Repeater for 2-wire transmitter 4...20 mA
- Loop-powered 10...35 VDC
- Galvanically isolated 3.75 kVAC
- 2-wire supply up to 15 VDC
- 1- and 2-channel versions
- For DIN rail mounting

Applications:
The PRetrans 5132 transmitter is ideal for galvanic isolation of 4...20 mA current signals from 2-wire transmitters.

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	10...35 VDC
Vdrop	< 4 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 (pin 43...41)	> 15 VDC (24 V_{supply} - 5 V load)
EMC immunity influence	< ±0.5%
Wire size	1 x 2.5 mm² stranded wire
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
Protection degree (encl. / 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

GOST R approval:

VNIIM, Cert. no.	Ross DK.ME48.V01899

Observed authority requirements:	**Standard:**
EMC 2004/108/EC	
Emission and immunity	EN 61326
LVD 2006/95/EC	EN 61010-1
PELV/SELV	IEC 364-4-41 and EN 60742

Of span = Of the presently selected range

PR electronics
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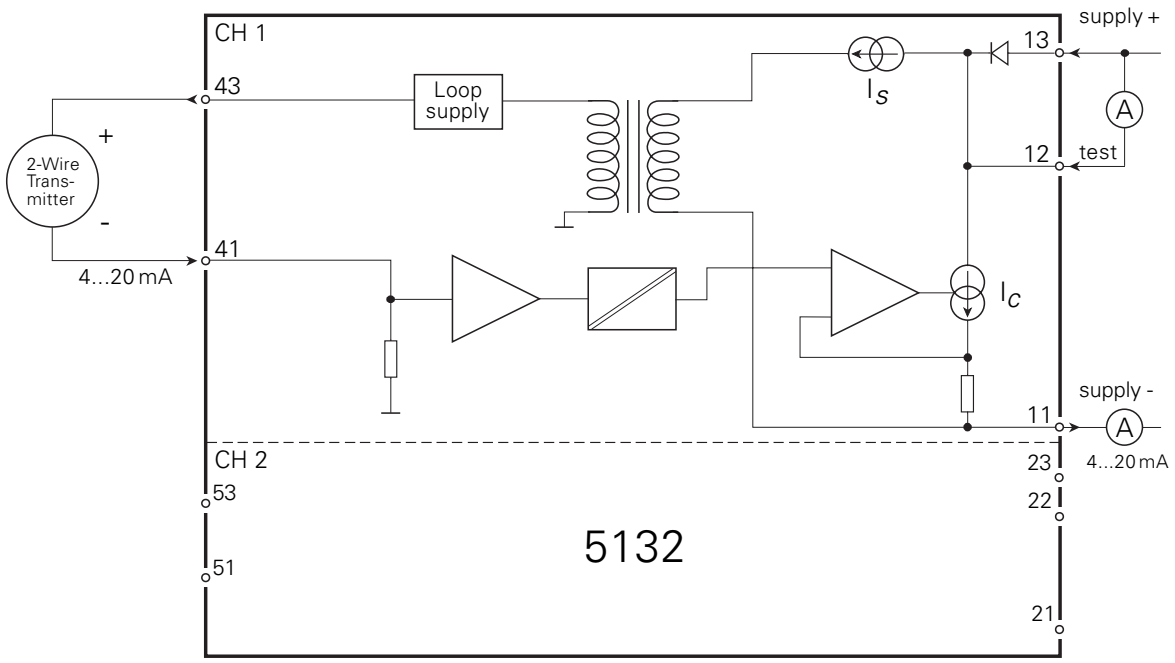
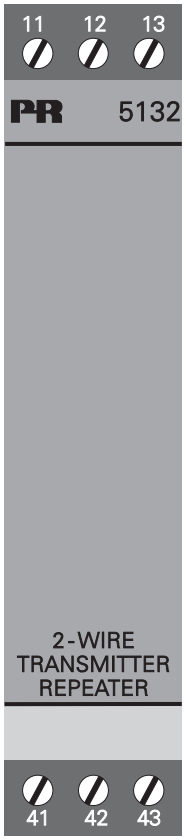
Order: 5132

Type	Version	Channels
5132	Standard : A	1 channel : 1 2 channels : 2

Block diagram:



Front layout:



Application: