Characteristics

1530 - STRAIN GAUGE - DIN RAIL - DISPLAY - RTD PT100 - STANDARD SIGNAL

- Input strain gauge:	1x strain gauge full bridge 350 Ω (DRSG-S4)
- Input RTD Pt100:	1x Pt100, 2-, 3-, 4-wire (DRRT-S4)
- Input current:	1x 0...20 mA (DRCU-S4)
- Input voltage:	1x 0...10 V (DRVO-S4)
- Other inputs:	Differential pressure, pot, resistance
- Output:	4...20 mA current loop HART (2-wire)
- Supply:	Current loop, 24 VDC, 85...250 VAC
- Accuracy:	See technical data
- Electr. connection:	2...6x plug-in terminals, 4-pole
- Limit value contacts:	2x electronically / 2x relays (changeover)
- Ingress protection:	IP20

Technical data

Input strain gauge / bridge (DRSG-S4)

Sensor:	1 strain gauge full bridge	
Bridge resistance:	350 Ω minimum	
Bridge supply:	1 VDC	
Bridge connection:	4-wire	
Range input signal:	1...4 mV/V	
Cable towards sensor:	Length:	10 m maximum
	Type:	Double-shielded

Input RTD Pt100 (DRRT-S4)

Sensor:	1 RTD Pt100
Type:	2-, 3-, 4-wire
Maximum range:	-50...250 °C
Minimum range:	50 °C
Sensor current:	0,3 mA

Input current (DRCU-S4)

Input:	0...20 mA
Input resistance:	27 Ω

Input voltage (DRVO-S4)

Input:	0...10 V
Input resistance:	20 kΩ

Input resistance (DRWI-S4)

Input:	3,3 kΩ
Measuring current:	0,15 mA

Input potentiometer (DRPO-S4)

Input:	3,3 kΩ
Measuring current:	0,15 mA

Applications

For use in industrial facilities, plant engineering or in general applications. With it's two configurable limit value contacts, the integrated display and the numerous different input signals, the transmitter is also suitable for applications with higher requirements.

Technical data (continued)

Input differential pressure (DRDP-S4)

Differential pressure:	0...10 mbar up to 0...1 bar
Pressure ranges:	see table below
Medium:	clean dry air, dry gases and the like (non-corrosive, non-ionic working)
Note for HART ability:	to be used for factory configuration and service only

Performance

Sensor:

Accuracy:	±0,1%...±0,25% FSO (linearity and hysteresis)
Zero offset:	±0...1,25% FS
Repeatability:	±0,2%...±0,5% FSO
Temperature effects:	within rated temperature range Offset: ±0,5...2,5% FS Span: ±0,4...1% FSO
Long term stability:	0,25...0,5% FS (offset and span, 1 year)
Response time:	100 µs
Temperature range:	0...50 °C (compensated)

Pressure table (in mbar)

Pressure range	10	20	50	100	200	500	1000	
Overpressure safety	100	100	250	250	1000	1000	3000	
Burst pressure	150	150	500	500	1400	1400	5000	
System pressure	15	30	75	150	300	500	1500	

Technical data (continued)

Output		
Current signal:	4...20 mA with superimposed communication signal (HART), 2-wire current loop	
Current range:	3,6...21 mA	
Signal on error:	21 mA (sensor break, sensor open circuit, sensor short circuit, underflow)	

Performance		
Measuring amplifier:	Accuracy:	0,3% of range
	Resolution:	16 Bit
	Filter setting:	0...99 s
	Measuring rate:	10 measurements/s
	Configuration:	Keys on display / via software (HART communication)
	Transmission behaviour:	linear with input signal
	Turn-on delay time:	<5 s
	Response time:	20 ms
Indicator / limit values:	Resolution:	-9999...9999 digit
	Error of measurement:	±0,2% of range, ±1 digit
	Temperature drift:	100 ppm/K
	Features, operation:	according VDMA 24574-1 up to 24574-4

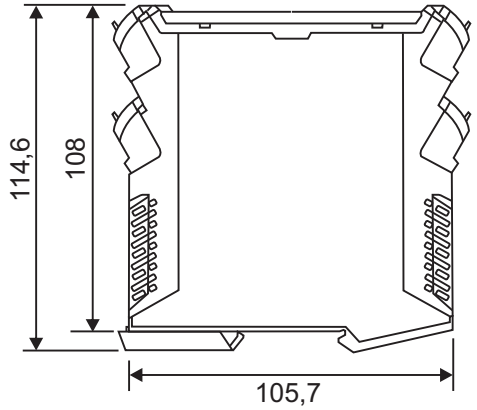
Indication		
Display:	7 segment, 8,5 mm, red, 4 digits	
Memory:	Minimum / maximum values	
Indication:	- measuring value	- unit of measurement- control menu
Decimal point:	Automatically or manually, dependent on measuring range / unit	
Representation:	xxxx / xxx.x / xx.xx / x.xxx	

Limit contacts		
Electronically:	Standard:	2x PNP or NPN (30 VDC, 200 mA)
	Option:	2x PNP or NPN (30 VDC, 1000 mA)
	Voltage drop:	<1 V
Mecanically:	Possibility:	With supply 24 VDC and 85...250 VAC
	Relay:	2x relay with 1x changeover each
	Nominal voltage:	250 VAC
	Constant current:	8 A
	Switching power AC1:	4000 VA
	Switching power AC15:	750 VA (230 VAC)
	Switching current DC1:	8 A (30 V)
Indication:	1 LED red for each limit value	
Settings:	With 3 keys (TouchM-Technology)	
Setting range:	Switch point and hysteresis: any value within measuring range	
Switching delay:	0,0...999,9 s	
Failsafe function:	Adjustable	
Galvanical insulation:	Switching outputs are separated from measuring amplifier	

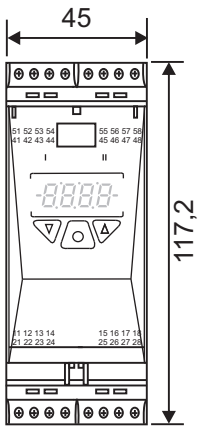
Technical data (continued)

Supply		
HART current loop:	Voltage:	12...40 VDC
	Load:	R = (U_B-12 V) / 21 mA
	Reverse battery protection:	available (no function, no damage)
DC externally:	Voltage:	24 VDC
	Current:	maximum 100 mA
AC externally:	Voltage:	85...250 VAC
Programmable features		
Measuring amplifier:	Measuring range start (LRV) / Measuring range end (URV) / Adjustment, simulation of output current / Filter function Linear output signal / HART address / 2-point calibration	
Display:	range of indication / time of indication / decimal point / units / stabilisation of zero point / locking of programming / calibration points / TAG number	
Limit value contacts:	limit value 1 and 2 / hysteresis 1 and 2 / delay times 1 and 2	
Ambient conditions		
Temperature:	Operating range:	-20...+80 °C
	Storing:	-20...+85 °C
Air humidity:	up to 95% rH	
Mechanics		
Case DR 45:		
Dimensions:	117,2x45x114,6 mm	
Material:	PA66 GF30	
Color:	black	
Flammability:	UL 94 V-0	
Mounting:	DIN rail TS 35	
Protection:	IP 20	
Weight:	approx. 180 g	
Electrical connection:	2..6 plug-in terminal strips 4-pole (according model)	
Clamping range:	0,13...3,31 mm²	
Pressure connection:	2 hose stem ?? mm	

Dimensions (in mm)



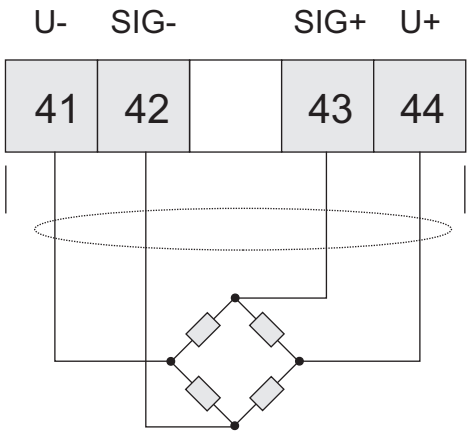
View side



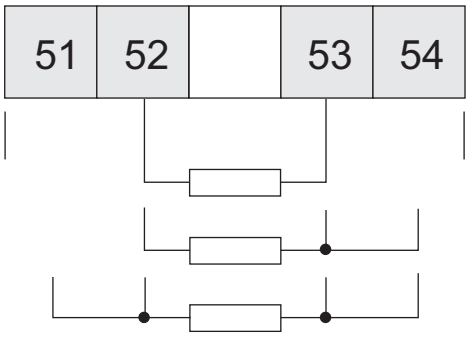
View top

Connection input signal

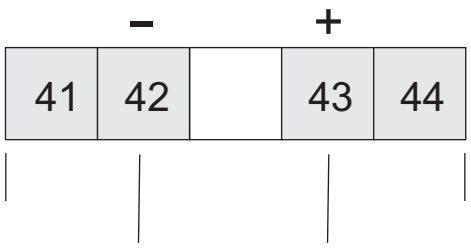
Strain gauge full bridge 350 Ω



RTD Pt100

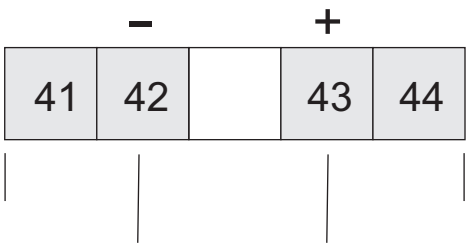


Current



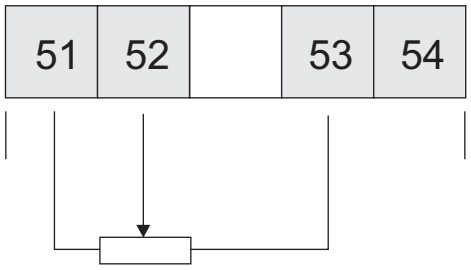
0...20 mA

Voltage

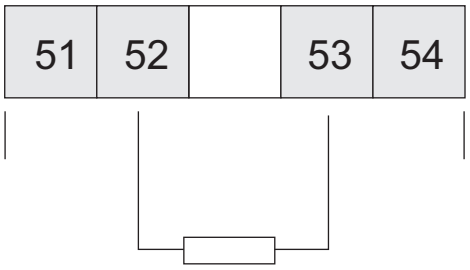


0...10 V

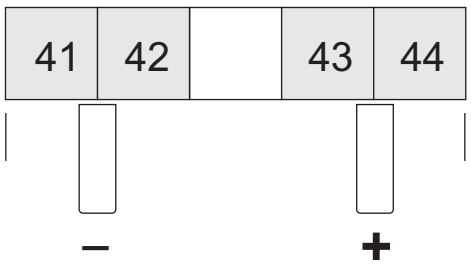
Potentiometer

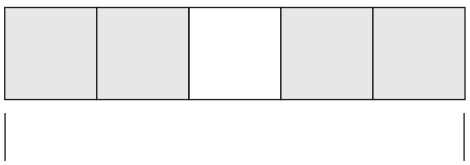


Resistance



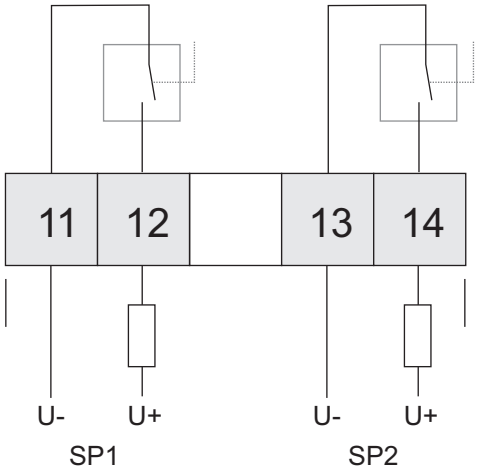
Differential pressure



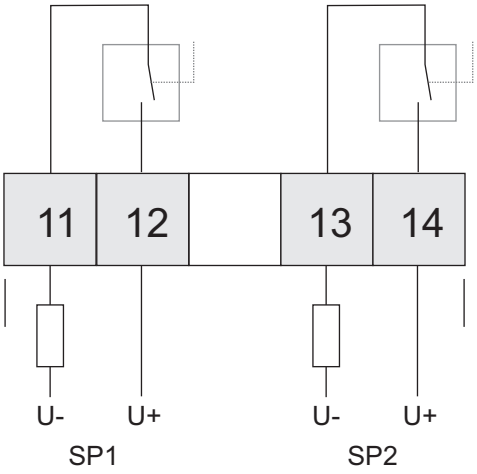


Connection limit value contacts

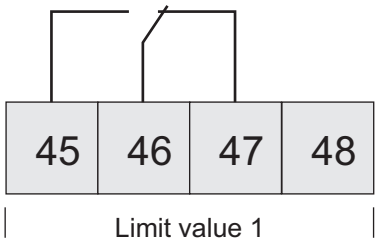
Limit value contacts NPN

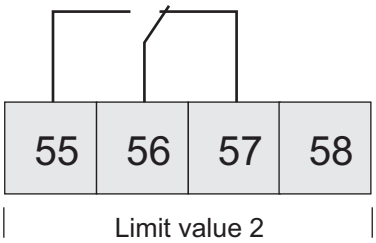


Limit value contacts PNP



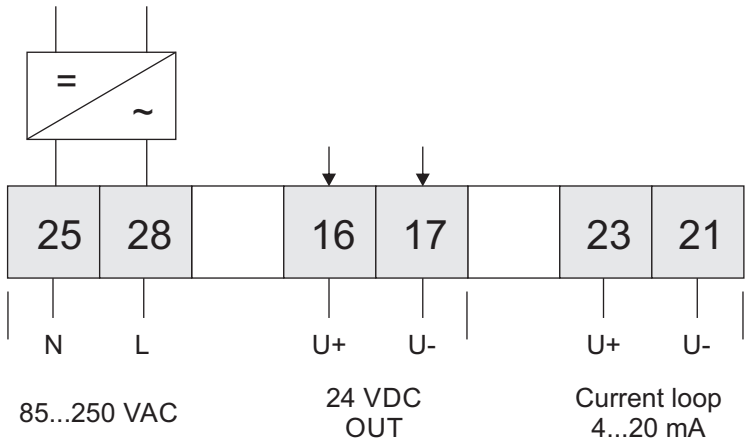
Limit value contacts relays



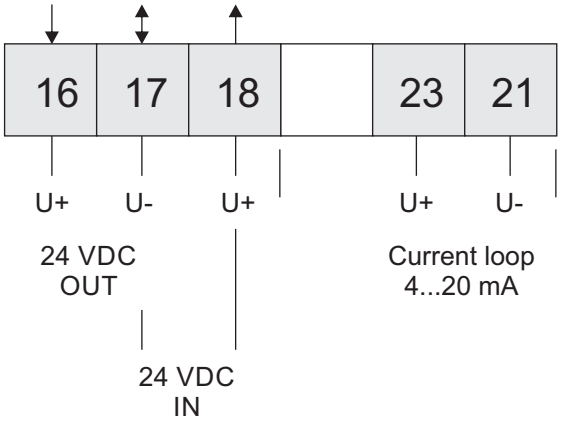


Connection supply and current loop

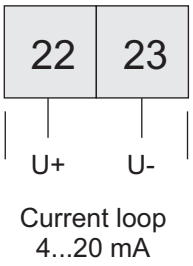
Supply 85...250 VAC



Supply 24 VDC



Supply current loop



Connection supply and current loop

The HART-Tool is a graphical user interface for the ME series with menu-driven progam for configuration. It can be used for putting into operation, configuration, analysis of signals, data backup and documentation of the device. Operating systems: Windows XP, Windows 7 and 8.1. Connection via HART interface (modem) with USB interface of a PC or hand-held HART communicator.

Settings:
- Adjustment of output current
- Limits of measuring range (URL, LRL)
- HART TAG number
- 6/10 point calibration (linearization)
- Simulation of output current
- Linear output signal (URV, LRV)
- 2-point calibration
- Filter function
- HART address

According the model of the device there are not always all settings available

Please note: When using communication via a HART modem, a comunication resistance of 250 Ω has to be taken into account.

Order code

B	V	X	X	X	X	X	X	-	X	X

Output:	4...20 mA HART	2

Input:	Strain gauge	S
	Resistance thermometer	R
	DC current	C
	DC voltage	V
	Differential pressure	D
	Resistance	W
	Potentiometer	P

Signal:	Strain gauge full bridge 350 Ω	0
	RTD Pt100, 2-, 3-, 4-wire	1
	Standard signal 0...20 mA	2
	Standard signal 0...10 V	3
	Differential pressure 10 mbar	4
	Differential pressure 20 mbar	5
	Differential pressure 50 mbar	6
	Differential pressure 100 mbar	7
	Differential pressure 200 mbar	8
	Differential pressure 500 mbar	9
	Differential pressure 1000 mbar	A
	Resistance, potentiometer 3,3 kΩ	B

Supply:	24 VDC	0
	HART current loop 12...40 VDC	2
	85...250 VAC	3

Limit value contact:	2x PNP, 30 VDC, 200 mA (Standard)	0
	1x PNP, 30 VDC, 200 mA	1
	Without	2
	2x NPN, 30 VDC, 200 mA	3
	1x NPN, 30 VDC, 200 mA	4
	2x PNP, 30 VDC, 1000 mA	5
	1x PNP, 30 VDC, 1000 mA	6
	2x NPN, 30 VDC, 1000 mA	7
	1x NPN, 30 VDC, 1000 mA	8
	2x Relays with changeover	9
	1x Relay with changeover	A

Electr. connection:	Plug-in terminal strips	0

Configuration:	Factory setting[1)]	1
	Customized (please specify)[2)]	2

Special model:	No	0
	Yes (please specify)	1

1) Damping: 0 s

2) Possible settings can be done according the technical data.

Accessories:

DEV-HM (HART-Interface, USB, Software) Order.-No.: 1310 - 00220