

Supplementary Components

Displays

SITRANS RD200

Overview



The SITRANS RD200 is a universal input, panel mount remote digital display for process instrumentation.

Benefits

- Easy setup and programming via front panel buttons or remotely using RD software
- Display readable in sunlight
- Universal input: accepts current, voltage, thermocouple, and RTD signals
- Single or dual 24 V DC transmitter power supply
- Serial communication using built in protocol or Modbus RTU
- Two optional relays for alarm indication or process control applications
- Linear or square root function supported
- Meter Copy feature to reduce setup time, cost, and errors
- RD software supports remote configuration, monitoring, and logging for up to 100 displays
- Other features include: 4 to 20 mA analog output option, pump alternation control, and optional NEMA 4 and 4X field enclosures
- 2X option for 30.5 mm (1.2 inch) high, red LED display

Application

The RD200 is a universal remote display for level, flow, pressure, temperature, weighing, and other process instruments.

Data can be remotely collected, logged and presented from as many as 100 displays on your local computer using the free downloadable RD Software.

The display accepts a single input of current, voltage, thermocouple, and RTD. This makes the RD200 an ideal fit for use with most field instruments.

The RD200 can be set up as a standard panel mount, or combined with optional enclosures to allow it to house up to 6 displays.

- Key Applications: tank farms, pump alternation control, local or remote display of level, temperature, flow, pressure and weighing instrument values, PC monitoring, and data logging with RD Software.

Technical specifications

Mode of operation	
Measuring principle	Analog to digital conversion
Measuring points	<ul style="list-style-type: none"> • 1 instrument • Remote monitoring of 100 instruments with PC and RD software
Input	
Measuring range	<ul style="list-style-type: none"> • Current • Voltage • Thermocouple temperature • RTD temperature
4 ... 20 mA, 0 ... 20 mA	• 4 ... 20 mA, 0 ... 20 mA
0 V DC ... 10 V DC, 1 ... 5 V, 0 ... 5 V	• 0 V DC ... 10 V DC, 1 ... 5 V, 0 ... 5 V
Type J: -50 ... +750 °C (-58 ... +1 382 °F)	• Type J: -50 ... +750 °C (-58 ... +1 382 °F)
Type K: -50 ... +1 260 °C (-58 ... +2 300 °F)	• Type K: -50 ... +1 260 °C (-58 ... +2 300 °F)
Type E: -50 ... +870 °C (-58 ... +1 578 °F)	• Type E: -50 ... +870 °C (-58 ... +1 578 °F)
Type T: -180 ... +371 °C (-292 ... +700 °F)	• Type T: -180 ... +371 °C (-292 ... +700 °F)
Type T, 0.1° resolution: -180.0 ... +371 °C (-199.9 ... +700 °F)	• Type T, 0.1° resolution: -180.0 ... +371 °C (-199.9 ... +700 °F)
100 Ω RTD: -200 ... +750 °C (-328 ... +1 382 °F)	• 100 Ω RTD: -200 ... +750 °C (-328 ... +1 382 °F)
Output signal	
Output	<ul style="list-style-type: none"> • 4 ... 20 mA (optional) • Modbus RTU
Relays	2 SPDT Form C relays, rated 3 A at 30 V DC or 3 A at 250 V AC, non-inductive, auto-initializing (optional)
Communications	<ul style="list-style-type: none"> • RS 232 with PDC or Modbus RTU • RS 422/485 with PDC or Modbus RTU
Accuracy	
4 ... 20 mA optional output	± 0.1 % FS ± 0.004 mA
Process input	± 0.05 % of span ± 1 count, square root: 10 ... 100 % FS
Thermocouple temperature input	<ul style="list-style-type: none"> • Type J: ± 1 °C (± 2 °F) • Type K: ± 1 °C (± 2 °F) • Type E: ± 1 °C (± 2 °F) • Type T: ± 1 °C (± 2 °F) • Type T, 0.1° resolution: ± 1 °C (± 1.8 °F)
RTD temperature input	• 100 Ω RTD: ± 1 °C (± 1 °F)
Rated operating conditions	
Ambient conditions	
• Storage temperature range	-40 ... +85 °C (-40 ... +185 °F)
• Operating temperature range	-40 ... +65 °C (-40 ... +149 °F)
Design	
Weight	269 g (9.5 oz) (including options)
Material (enclosure)	<ul style="list-style-type: none"> • 1/8 DIN, high impact plastic, UL94V-0, color: gray • Optional plastic, steel and stainless steel (Type 304, EN 1.4301) NEMA 4 enclosures
Degree of protection	Type 4X, NEMA 4X, IP65 (front cover); panel gasket provided
Electrical connection	
mA output signal	2-core copper conductor, twisted, shielded, 0.82 ... 3.30 mm ² (18 ... 12 AWG), Belden 8 760 or equivalent is acceptable
Electrical connection and relay connection	Copper conductor according to local requirements, rated 3 A at 250 V AC

Power supply	
Input voltage option 1	85 ... 265 V AC, 50/60 Hz; 90 ... 265 V DC, 20 W max.
Input voltage option 2	12 ... 36 V DC; 12 ... 24 V AC, 6 W max.
Transmitter power supply	One or two isolated transmitter power supplies (optional)
<ul style="list-style-type: none"> • Single power supply • Dual power supplies 	One 24 V DC \pm 10 % at 200 mA max. Two 24 V DC \pm 10 % at 200 mA and 40 mA max.
External loop power supply	35 V DC max.
Output loop resistance	<ul style="list-style-type: none"> • 24 V DC, 10 ... 700 Ω max. • 35 V DC (external), 100 ... 1 200 Ω max.
Displays and controls	
Display	<ul style="list-style-type: none"> • 14 mm (0.56 inch) high LED • 2X option for 30.5 mm (1.2 inch) high, red LED • Numeric range from -1 999 ... +9 999 • Four digits, automatic lead zero blanking • Eight intensity levels
Memory	<ul style="list-style-type: none"> • Non-volatile • Stores settings for minimum of 10 years if power is lost
Programming	<ul style="list-style-type: none"> • Primary: front panel • Secondary: meter copy or PC with SITRANS RD software
Certificates and approvals	
CE, UL, cUL	
Options	
Enclosures	Plastic, steel, and stainless steel (Type 304, EN 1.4301) NEMA 4 and 4X enclosures
Mounting	<ul style="list-style-type: none"> • 2 inch (5.08 cm) pipe mounting kit (zinc plated seal) • 2 inch (5.08 cm) pipe mounting kit (stainless steel, Type 304, EN 1.4301)

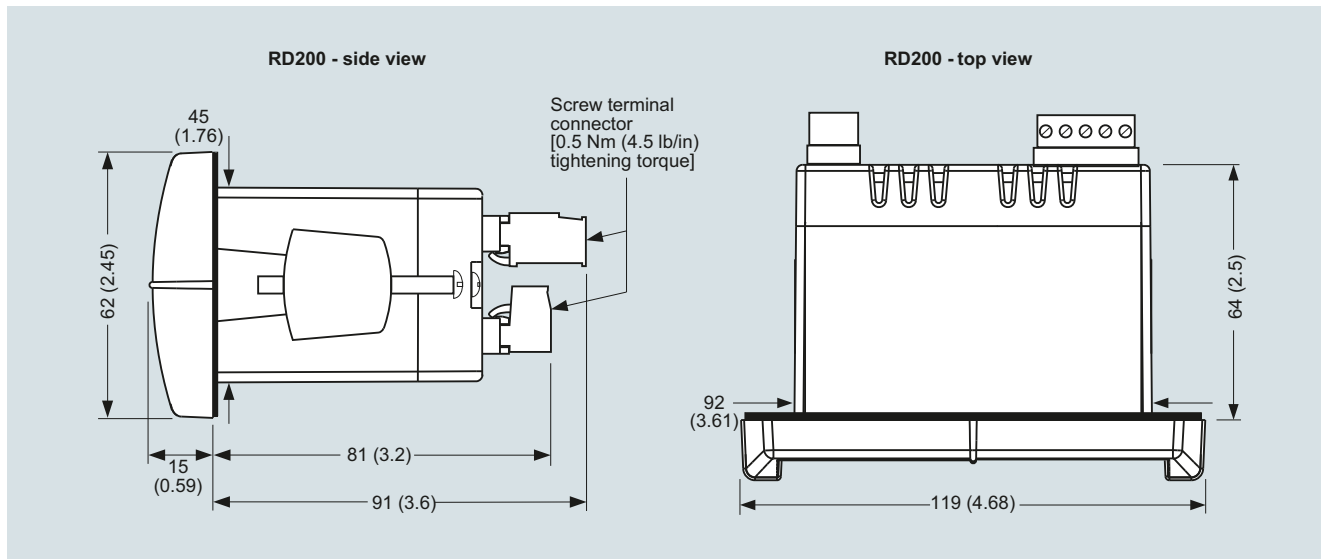
Supplementary Components

Displays

SITRANS RD200

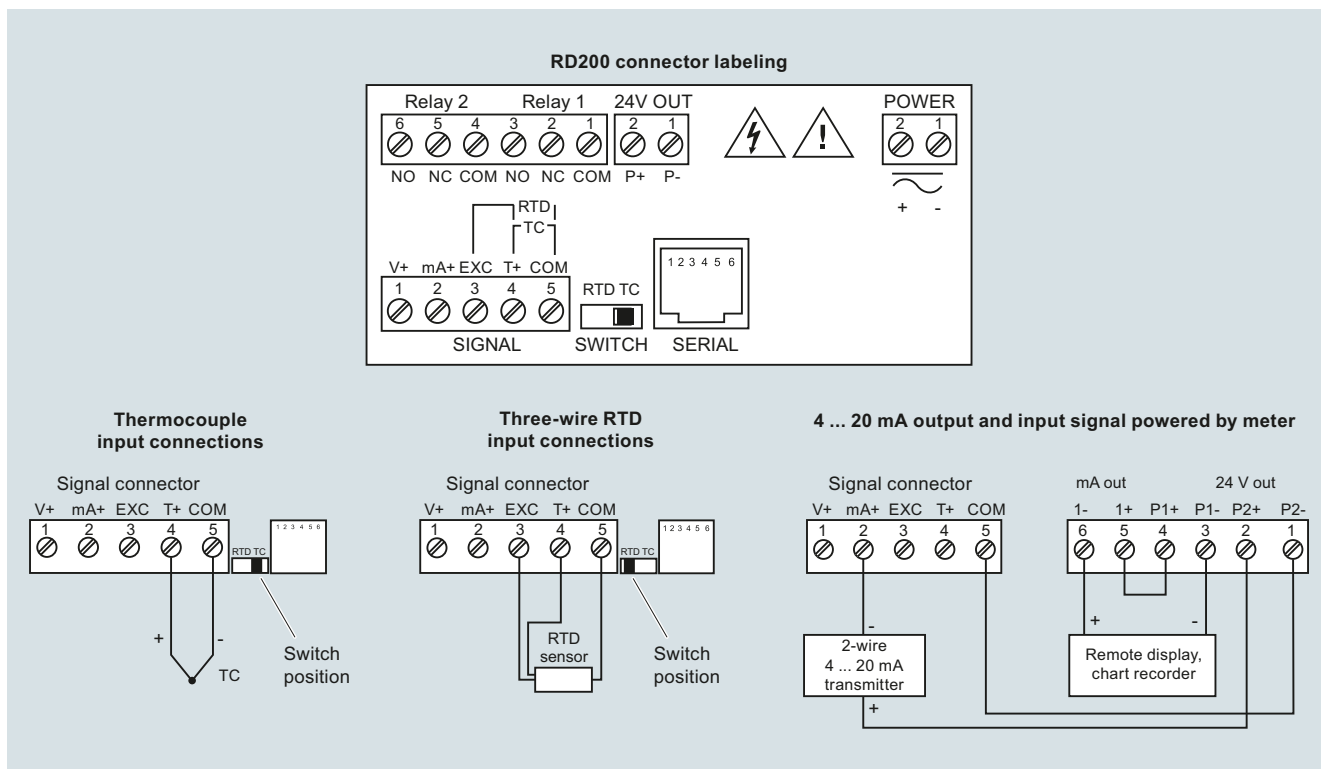
Selection and Ordering data	Article No.	Selection and Ordering data	Article No.
SITRANS RD200 A universal input, panel mount remote digital display for process instrumentation. ↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	7ML5740- 	Operating Instructions All literature is available to download for free, in a range of languages, at http://www.siemens.com/processinstrumentation/documentation	
Input voltage 85 ... 265 V AC, 50/60 Hz; 90 ... 265 V DC, 20 W max. 12 ... 36 V DC; 12 ... 24 V AC, 6 W max.	1	Accessories SITRANS RD200 copy cable 2.1 m (7 ft) SITRANS RD200 RS 232 serial adapter (copy cable included) SITRANS RD200 RS 422/485 serial adapter (copy cable included) RS 232 to RS 422/485 isolated converter RS 232 to RS 422/485 non-isolated converter SITRANS RD200 RS 232 and RS 485 isolated multi-input adapter board USB to RS 422/485 isolated converter USB to RS 422/485 non-isolated converter RD200 USB serial adapter USB to RS 232 converter RD Software CD for 1 ... 100 displays Low cost polycarbonate plastic enclosure for 1 display 2 inch (5.08 cm) pipe mounting kit (zinc plated seal) only available with 7ML1930-1CF 2 inch (5.08 cm) pipe mounting kit (stainless steel, Type 304, EN 1.4301) only available with 7ML1930-1CF	7ML1930-1BR 7ML1930-1BS 7ML1930-1BT 7ML1930-1BU 7ML1930-1BV 7ML1930-1BW 7ML1930-1BX 7ML1930-1BY 7ML1930-6AH 7ML1930-6AK 7ML1930-1CC 7ML1930-1CF 7ML1930-1BP 7ML1930-1BQ
Transmitter supply None Single 24 V DC transmitter supply ¹⁾ Dual 24 V DC transmitter supply ¹⁾²⁾	A B C	Thermoplastic enclosure For use with 1 display For use with 2 displays For use with 3 displays For use with 4 displays For use with 5 displays For use with 6 displays	7ML1930-1CG 7ML1930-1CH 7ML1930-1CJ 7ML1930-1CK 7ML1930-1CL 7ML1930-1CM
Output None 2 relays 4 ... 20 mA output	A B C	Stainless steel enclosure (Type 304, EN 1.4301) For use with 1 display For use with 2 displays For use with 3 displays For use with 4 displays For use with 5 displays For use with 6 displays	7ML1930-1CN 7ML1930-1CP 7ML1930-1CQ 7ML1930-1CR 7ML1930-1CS 7ML1930-1CT
Communication Modbus RTU	0	Steel enclosure For use with 1 display For use with 2 displays For use with 3 displays For use with 4 displays For use with 5 displays For use with 6 displays	7ML1930-1CU 7ML1930-1CV 7ML1930-1CW 7ML1930-1CX 7ML1930-1CY 7ML1930-1DA
Approvals CE, UL, cUL	1		
Display Size Standard 2X option for 30.5 mm (1.2 inch) high, red LED	0 1		
¹⁾ Available with input voltage option 1 only ²⁾ Available with output option C only			

Dimensional drawings



SITRANS RD200, dimensions in mm (inch)

Circuit diagrams



SITRANS RD200 connections