

## 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.

## SITRANS RD200

## Selection and ordering data

SITRANS RD200 Display		Article No.	
Remote digital display for process instruments. With 4 to 20 mA, 0 to 10 V, RTD, and TC inputs and pump control. Panel mount with field mount enclosure options.		7ML5740-●●●●●-●A	
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.			
<b>Input voltage</b>			
85 ... 265 V AC, 50/60 Hz; 90 ... 265 V DC, 20 W max.	1		
12 ... 36 V DC; 12 ... 24 V AC, 6 W max.	2		
<b>Transmitter supply</b>			
None		A	
Single 24 V DC transmitter supply <sup>1)</sup>		B	
Dual 24 V DC transmitter supply <sup>1)2)</sup>		C	
<b>Output</b>			
None			A
2 relays			B
4 ... 20 mA output			C
<b>Communication</b>			
Modbus RTU			0
<b>Approvals</b>			
Ordinary Locations/General Purpose (Non-Ex), CE, UKCA, UL, cUL			1
<b>Display Size</b>			
Standard			0
2X option for 30.5 mm (1.2 inch) high, red LED			1

<sup>1)</sup> Available with input voltage option 1 only.

<sup>2)</sup> Available with output option C only.

Selection and Ordering data	Article No
<b>Operating Instructions</b>	
All literature is available to download for free, in a range of languages, at <a href="http://www.siemens.com/processinstrumentation/documentation">http://www.siemens.com/processinstrumentation/documentation</a>	
<b>Accessories</b>	
SITRANS RD200 copy cable 2.1 m (7 ft)	7ML1930-1BR
SITRANS RD200 RS 232 serial adapter (copy cable included)	7ML1930-1BS
SITRANS RD200 RS 422/485 serial adapter (copy cable included)	7ML1930-1BT
RS 232 to RS 422/485 isolated converter	7ML1930-1BU
USB to RS 422/485 isolated converter	7ML1930-1BX
RD200 USB serial adapter	7ML1930-6AH
USB to RS 232 converter	7ML1930-6AK
Low cost polycarbonate plastic enclosure for 1 display	7ML1930-1CF
2 inch (5.08 cm) pipe mounting kit (stainless steel, Type 304, EN 1.4301) only available with 7ML1930-1CF	7ML1930-1BQ
<b>Thermoplastic enclosure</b>	
For use with 1 display	7ML1930-1CG
For use with 2 displays	7ML1930-1CH
For use with 3 displays	7ML1930-1CJ
For use with 4 displays	7ML1930-1CK

Selection and Ordering data	Article No
For use with 5 displays	7ML1930-1CL
For use with 6 displays	7ML1930-1CM
<b>Stainless steel enclosure (Type 304, EN 1.4301)</b>	
For use with 1 display	7ML1930-1CN
For use with 2 displays	7ML1930-1CP
For use with 3 displays	7ML1930-1CQ
For use with 4 displays	7ML1930-1CR
For use with 5 displays	7ML1930-1CS
For use with 6 displays	7ML1930-1CT
<b>Steel enclosure</b>	
For use with 1 display	7ML1930-1CU
For use with 2 displays	7ML1930-1CV
For use with 3 displays	7ML1930-1CW
For use with 4 displays	7ML1930-1CX
For use with 5 displays	7ML1930-1CY
For use with 6 displays	7ML1930-1DA

## Technical specifications

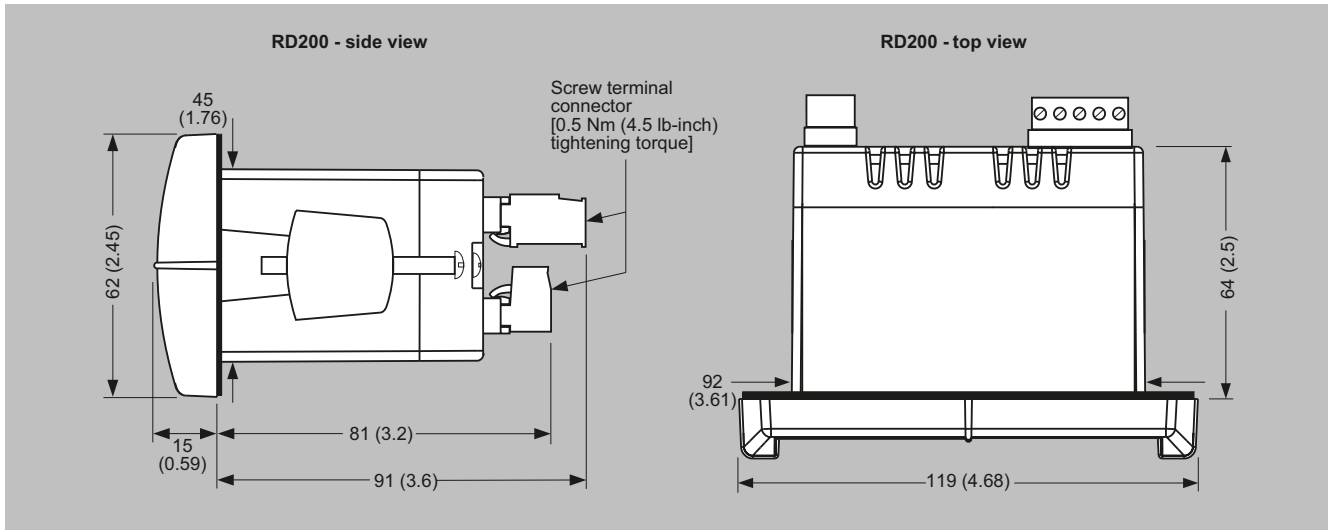
SITRANS RD200	
<b>Mode of operation</b>	
Measuring principle	Analog to digital conversion
Measuring points	<ul style="list-style-type: none"> <li>1 instrument</li> <li>Remote monitoring of 100 instruments with PC and RD software</li> </ul>
<b>Input</b>	
Measuring range	
<ul style="list-style-type: none"> <li>Current</li> <li>Voltage</li> <li>Thermocouple temperature</li> </ul>	<ul style="list-style-type: none"> <li>4 ... 20 mA, 0 ... 20 mA</li> <li>0 V DC ... 10 V DC, 1 ... 5 V, 0 ... 5 V</li> <li>Type J: -50 ... +750 °C (-58 ... +1 382 °F)</li> <li>Type K: -50 ... +1 260 °C (-58 ... +2 300 °F)</li> <li>Type E: -50 ... +870 °C (-58 ... +1 578 °F)</li> <li>Type T: -180 ... +371 °C (-292 ... +700 °F)</li> <li>Type T, 0.1° resolution: -180.0 ... +371 °C (-199.9 ... +700 °F)</li> </ul>
<ul style="list-style-type: none"> <li>RTD temperature</li> </ul>	<ul style="list-style-type: none"> <li>100 Ω RTD: -200 ... +750 °C (-328 ... +1 382 °F)</li> </ul>
<b>Output signal</b>	
Output	<ul style="list-style-type: none"> <li>4 ... 20 mA (optional)</li> <li>Modbus RTU</li> </ul>
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"> <li>RS 232 with PDC or Modbus RTU</li> <li>RS 422/485 with PDC or Modbus RTU</li> </ul>
<b>Accuracy</b>	
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"> <li>Type J: ± 1 °C (± 2 °F)</li> <li>Type K: ± 1 °C (± 2 °F)</li> <li>Type E: ± 1 °C (± 2 °F)</li> <li>Type T: ± 1 °C (± 2 °F)</li> <li>Type T, 0.1° resolution: ± 1 °C (± 1.8 °F)</li> </ul>
RTD temperature input	<ul style="list-style-type: none"> <li>100 Ω RTD: ± 1 °C (± 1 °F)</li> </ul>
<b>Rated operating conditions</b>	
Ambient conditions	
<ul style="list-style-type: none"> <li>Storage temperature range</li> <li>Operating temperature range</li> </ul>	<ul style="list-style-type: none"> <li>-40 ... +85 °C (-40 ... +185 °F)</li> <li>-40 ... +65 °C (-40 ... +149 °F)</li> </ul>
<b>Design</b>	
Weight	269 g (9.5 oz) (including options)
Material (enclosure)	<ul style="list-style-type: none"> <li>1/8 DIN, high impact plastic, UL94V-0, color: gray</li> <li>Optional plastic, steel and stainless steel (Type 304, EN 1.4301) NEMA 4 enclosures</li> </ul>
Degree of protection	Type 4X, NEMA 4X, IP65 (front cover); panel gasket provided
<b>Electrical connection</b>	
mA output signal	2-core copper conductor, twisted, shielded, 0.82 ... 3.30 mm <sup>2</sup> (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
<b>Power supply</b>	
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"> <li>Single power supply</li> <li>Dual power supplies</li> </ul>	<ul style="list-style-type: none"> <li>One 24 V DC ± 10 % at 200 mA max.</li> <li>Two 24 V DC ± 10 % at 200 mA and 40 mA max.</li> </ul>

## Technical specifications (continued)

SITRANS RD200	
External loop power supply	35 V DC max.
Output loop resistance	<ul style="list-style-type: none"> <li>24 V DC, 10 ... 700 Ω max.</li> <li>35 V DC (external), 100 ... 1 200 Ω max.</li> </ul>
<b>Displays and controls</b>	
Display	<ul style="list-style-type: none"> <li>14 mm (0.56 inch) high LED</li> <li>2X option for 30.5 mm (1.2 inch) high, red LED</li> <li>Numeric range from -1 999 ... +9 999</li> <li>Four digits, automatic lead zero blanking</li> <li>Eight intensity levels</li> </ul>
Memory	<ul style="list-style-type: none"> <li>Non-volatile</li> <li>Stores settings for minimum of 10 years if power is lost</li> </ul>
Programming	<ul style="list-style-type: none"> <li>Primary: front panel</li> <li>Secondary: meter copy or PC with SITRANS RD software</li> </ul>
<b>Certificates and approvals</b>	CE, UKCA, UL, cUL
<b>Options</b>	
Enclosures	Plastic, steel, and stainless steel (Type 304, EN 1.4301) NEMA 4 and 4X enclosures
Mounting	<ul style="list-style-type: none"> <li>2 inch (5.08 cm) pipe mounting kit (zinc plated seal)</li> <li>2 inch (5.08 cm) pipe mounting kit (stainless steel, Type 304, EN 1.4301)</li> </ul>

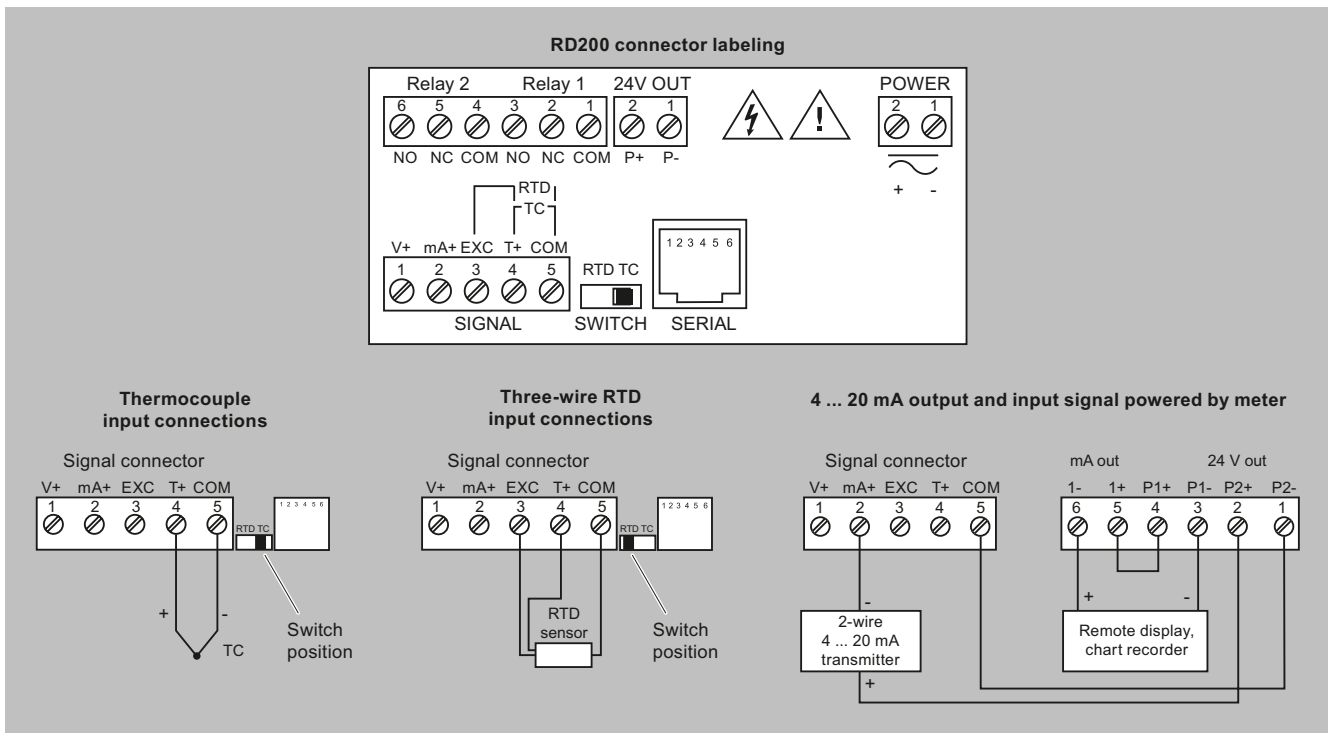
SITRANS RD200

Dimensional drawings



SITRANS RD200, dimensions in mm (inch)

Circuit diagrams



SITRANS RD200 connections