

## Supplementary components

### Displays

#### SITRANS RD300

##### Overview



The SITRANS RD300 is a panel mount remote digital display for process instrumentation and acts as a multi-purpose, easy to use, rate/totalizer ideal for flow rate, total, and control applications.

##### Benefits

- Easy setup and programming via front panel buttons or using free RD software available via USB drive
- Display readable in sunlight
- Input: accepts current and voltage
- Single or dual 24 V DC transmitter power supply
- Serial communication using built in protocol or Modbus RTU
- Supports up to 8 relays and 8 digital I/O for process control and alarming
- 32-Point linearization, square root or exponential linearization
- Multi-pump alternation control
- Supports total, grand total or non-resettable grand total
- 9-digit totalizer with total overflow feature
- Large dual-line, 6-digit display
- Configure, monitor, and datalog from a PC
- Dual-input option with math functions: addition, difference, average, multiplication, division, minimum, maximum, weighted average, ratio, concentration

##### Application

The RD300 is a remote display for level, flow, pressure, weighing, and other process instruments. This display also acts as a multi-purpose, easy to use rate/totalizer ideal for flow rate, total, and control applications.

Data can be remotely collected, logged and presented on your local computer using the free RD software available via USB drive.

The display accepts a single or dual input of current and voltage. This makes the RD300 an ideal fit for use with most field instruments.

The RD300 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, flow, pressure and weighing instrument values, PC monitoring and data logging with RD Software.

## Technical specifications

<b>Mode of operation</b>		<b>Electrical connection</b>	
Measuring principle	Analog to digital conversion	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
Measuring points	1 or 2 instruments	Electrical connection and relay connection	Copper conductor according to local requirements, rated 3 A at 250 V AC
<b>Input</b>		<b>Power supply</b>	
Measuring range		Input voltage option	85 ... 265 V AC, 50/60 Hz; 90 ... 265 V DC, 20 W max. or jumper selectable 12/24 V DC $\pm$ 10 %, 15 W max.
• Current	4 ... 20 mA, 0 ... 20 mA	Transmitter power supply	Terminals P+ & P-: 24 V DC $\pm$ 10 %, 12/24 V DC powered models selectable for 24, 10, or 5 V DC supply (internal jumper J4), 85 ... 265 V AC models rated at 200 mA max, 12/24 V DC powered models rated at 100 mA max., at 50 mA max. for 5 or 10 V DC supply.
• Voltage	0 V DC ... +10 V DC, 1 ... 5 V, 0 ... 5 V	External loop power supply	35 V DC max.
<b>Output signal</b>		Output loop resistance	• 24 V DC, 10 ... 700 $\Omega$ max. • 35 V DC (external), 100 ... 1 200 $\Omega$ max.
Output	• 4 ... 20 mA (optional) • Modbus RTU	<b>Displays and controls</b>	
Relays	2 or 4 SPDT (Form C) internal and/or 4 SPST (Form A) external; rated 3 A at 30 V DC and 125/250 V AC resistive load; 1/14 HP (50 W) at 125/250 V AC for inductive loads (optional)	Main display	0.6 inch (15 mm) high, red LEDs
Communications	• RS 232 with Modbus RTU • RS 422/485 with Modbus RTU • USB configuration and monitoring port	Second display	0.46 inch (12 mm) high, red LEDs, 6-digits: each (-99 999 ... 999 999)
<b>Accuracy</b>		Memory	• Non-volatile • Stores settings for minimum of 10 years if power is lost
4 ... 20 mA optional output	$\pm$ 0.1 % FS $\pm$ 0.004 mA	Programming	• Primary: front panel • Secondary: Meter Copy or PC with SITRANS RD Software
Process input	$\pm$ 0.05 % of span $\pm$ 1 count, square root: 10 ... 100 % FS	<b>Certificates and approvals</b>	
<b>Rated operating conditions</b>		CE, UL, cUL	
Ambient conditions		<b>Options</b>	
• Storage temperature range	-40 ... +85 °C (-40 ... +185 °F)	Enclosures	Plastic, steel and stainless steel (Type 304, EN 1.4301) NEMA 4 and 4X enclosures
• Operating temperature range	-40 ... +65 °C (-40 ... +149 °F)		
<b>Design</b>			
Weight	269 g (9.5 oz) (including options)		
Material (enclosure)	• 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		

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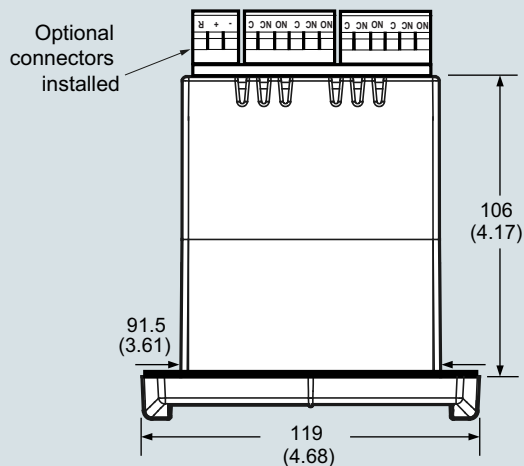
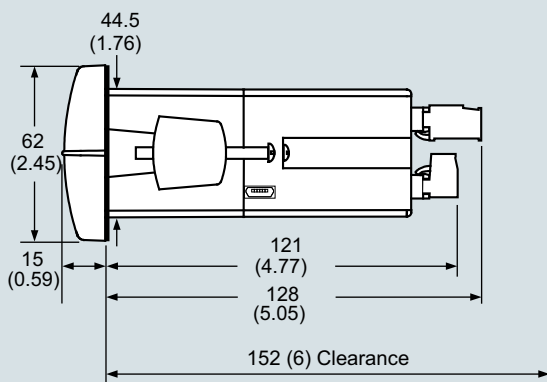
#### Selection and ordering data

	Article No.
<b>SITRANS RD300 Display</b> Remote digital panel mount process display with current or voltage inputs. Two input, multi-line display, totalizer and pump control. ↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	<b>7ML5744-</b> - 0 A
<b>Input voltage</b> 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 2
<b>Output</b> None 2 Relays 4 Relays 4 ... 20 mA output 2 Relays and 4 ... 20 mA output 4 Relays and 4 ... 20 mA output	A B C D E F
<b>Type</b> Single input process and flow rate/totalizer Mtr Dual input process Mtr	A B
<b>Display</b> Standard SunBright	0 1
<b>Approvals</b> UL, C-UL and CE	0

#### 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> DIN-Rail Mounting Kit 4 Relays Expansion Module 4 Digital I/O Module Dual output 4 ... 20 mA expansion module for dual input meter Meter Copy Cable RD300 RS 232 Serial Adapter RD300 RS 422/485 Serial Adapter RD300 USB Serial Adapter USB to RS 232 Converter RS 232 to RS 422/485 isolated converter RS 232 to RS 422/485 non-isolated converter USB to RS 422/485 isolated converter USB to RS 422/485 non-isolated converter Snubber	7ML1930-6AB 7ML1930-6AC 7ML1930-6AD 7ML1930-6AP 7ML1930-6AE 7ML1930-6AF 7ML1930-6AG 7ML1930-6AJ 7ML1930-6AK 7ML1930-1BU 7ML1930-1BV 7ML1930-1BX 7ML1930-1BY 7ML1930-6AL
<b>Plastic enclosure</b> For 1 meter For 2 meters For 4 meters For 5 meters For 6 meters	7ML1930-6AM 7ML1930-6AN 7ML1930-1CK 7ML1930-1CL 7ML1930-1CM

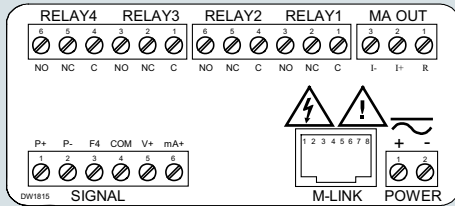
#### Dimensional drawings



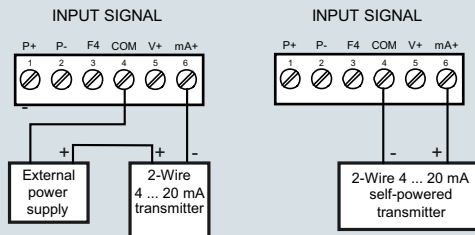
SITRANS RD300, dimensions in mm (inch)

Circuit diagrams

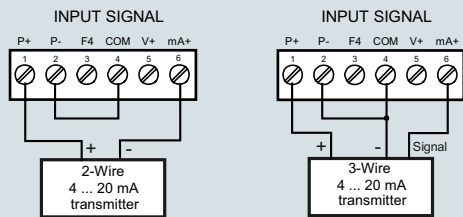
Connector labeling for fully loaded single input meter



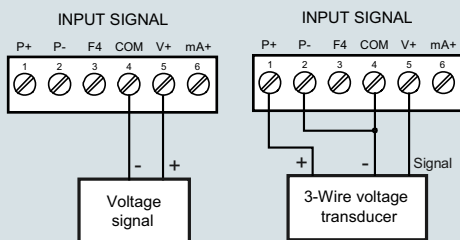
Transmitter powered by external supply or self-powered



Transmitter powered by internal supply



Voltage Input Connections



SITRANS RD300 connections