

Communication enabler

4511

- Programming display for system 4000 and 9000 devices as well as selected system 3000 devices
- Modbus RTU protocol interface over RS-485
- Monitor process value from the built-in display
- High 2.5 kV isolation to host unit
- Shielded RJ45 connector on top

Application

- The 4511 detachable display adds Modbus RTU RS-485 serial communications to all current and future 4000/9000 units.
- The unit converts a wide array of sensors and analog device signals measured by the system 4000 like uni- and bipolar mA and voltage signals, potentiometer, Lin. R, RTD and TC, to a Modbus communication line signal.
- When mounted on a system 9000 device any signal coming from or going to I.S. classified area, like AI, AO, DI and DO signals, can be converted to a Modbus network.
- All individual unit operating parameters can easily and quickly be configured by using the Modbus communication or by using the front display menu.
- The easily readable 4511 display can be used to read the process signal, simulate the output signal, indicate sensor errors and internal device errors.
- The 4511 can be moved from one device to another. The individual system 3000 / 4000 / 9000 device configuration of a transmitter can be saved and downloaded to subsequent transmitters.

Technical characteristics

- 4511 has full functionality for unit programming, process signal monitoring and diagnostics handling.
- Multidrop half-duplex connection via shielded RJ45 connector.
- High safe galvanic isolation of 2.5 kVAC between the serial wiring and the connected system 4000 / 9000 units.
- Modbus parameters such as address, baud rate, stop bit(s), and parity bit are configured from the 4511 display, which also stores parameters.

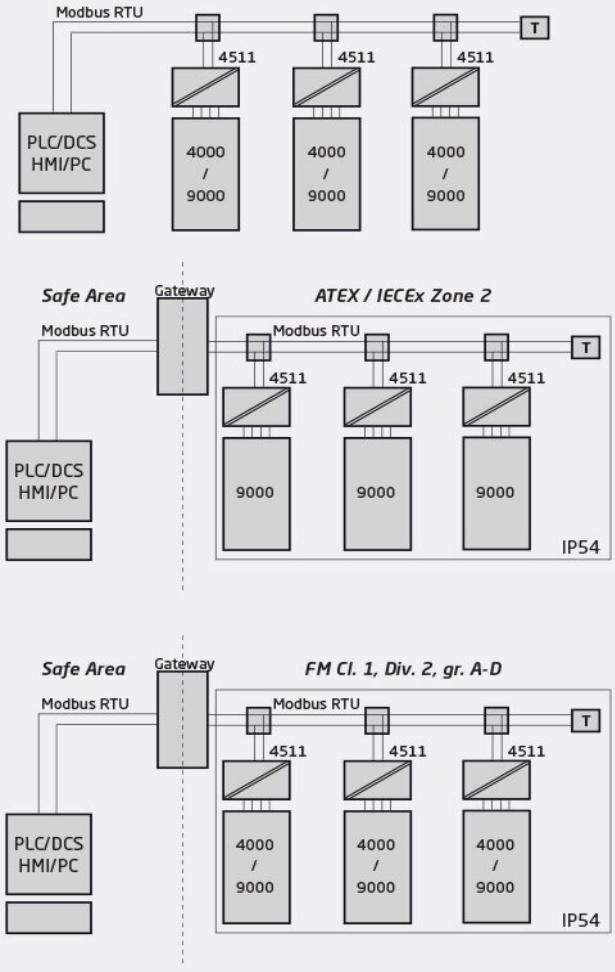
Mounting / installation / programming

- Mounting in Zone 2 / Div 2.
- All configuration data from a PR 3000 / 4000 / 9000 device can be transferred to a PC using the PR 4590.
- Programmed parameters can be protected by a userdefined password.
- When mounted on devices that are installed upside down, a menu item allows the display on the 4511 to be rotated 180 degrees and the up/down buttons to switch function.

Note

- If you need an installation instruction in hard copy, you can order it for free when placing your order.

Applications



Measurement and data acquisition solutions

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Order

Type	Description
4511 4590	Communication enabler Configmate interface

Environmental Conditions

Operating temperature	-20°C to +60°C
Storage temperature	-20°C to +85°C
Relative humidity	< 95% RH (non-cond.)
Protection degree	IP20
Installation in	Pollution degree 2 & meas. / overvoltage cat. II

Mechanical specifications

Dimensions (HxWxD)	73.2 x 23.3 x 26.5 mm
Dimensions (HxWxD) w/ 4000/9000 unit	109 x 23.5 x 131 mm
Weight approx	30 g
Connection	RJ45 - shielded

Common specifications

Supply

Max. required power	0.15 W

Isolation voltage

Isolation voltage, test / working	2.5 kVAC / 250 VAC reinforced isolation

Response time

Response time	< 20 ms
Signal / noise ratio	> 60 dB
Update rate	> 50 Hz
Extended EMC immunity: NAMUR NE21, A criterion, burst	No loss of communication
Signal type	RS-485 half duplex
Serial protocol	Modbus RTU
Modbus mode	RTU - slave
Devices on an RS485 line	Up to 32 (w/o a repeater)
Data rates, baud	2400, 4800, 9600, 19200, 38400, 57600, 115200
Automatic baudrate detection	Yes - can be configured ON or OFF
Parity	Even, Odd, None
Stop bit(s)	1 or 2
Digital addressing	1...247
Response delay	0...1000 ms
Host non-volatile memory lifespan, maximum number of Modbus write operations	10000

I.S. / Ex marking

ATEX	II 3 G Ex ec IIC T5
IECEx	Ex ec IIC T5 Gc
FM, US	Cl I, Div 2, Gp A, B, C, D T5; Cl I, Zn 2, AEx ec IIC T5 Gc
FM, CA	Cl I, Div 2, Gp A, B, C, D T5; Ex ec IIC T5 Gc

Observed authority requirements

EMC	2014/30/EU & UK SI 2016/1091
LVD	2014/35/EU & UK SI 2016/1101
ATEX	2014/34/EU & UK SI 2016/1107
RoHS	2011/65/EU & UK SI 2012/3032
EAC	TR-CU 020/2011

Approvals

ATEX	DEKRA 13ATEX0098 X
IECEx	DEK 13.0026 X
c FM us	FM22US0014X / FM22CA0009X
UKEX	DEKRA 21UKEX0167X
CCC	2025322310006444
c UL us, UL 61010-1	E314307
DNV Marine	TAA00000JD

For pricing or any further information, please contact Omni Instruments Ltd.

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Measurement and data acquisition solutions

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