

06457E00

### Ethernet CPU Module & Power Module for Zone 1 / Div. 1 Series 9441 and 9444

- Fieldbus connection Industrial Ethernet Modbus TCP with 100 MBit/s
- Redundant Ethernet connection is possible
- Explosion protected, optical inherently safe fibre optic cable, „Ex op is“
- Integrated Ex i / I.S. power supply for up to 8 I/O modules incl. connected field devices
- Configuration and diagnostics via Ethernet, DTM and Webserver
- LCD display to indicate diagnostic data and determine IP addresses
- Modules can be replaced in operation (hot swap)

STAHL

The CPU module has the function of a gateway between the internal bus in an IS1 fieldstation and the explosion protected (Ex op is) Ethernet Modbus TCP.

The Power Module (PM) contains a power supply for the intrinsically safe supply of power to the CPU module and to the 8 I/O modules incl. the field devices connected.

The I/O modules are supplied with power and communicate via the BusRail.

The electronics have a flameproof enclosure and are connected to the base using Ex d and Ex i connectors.

Due to a special mechanism, both the CPU module (intrinsically safe supply) and the power module can be replaced in Zone 1 while powered up.

Zone	0	1	2	20	21	22
Ex interface		X	X		X	X
Installation in		X	X		X	X

Note: NEC 500 and 505 in preparation

Selection Table				
Version	Installation in	Fieldbus	Power supply	Order number
CPU Module	Zone 1 / Division 1	Modbus TCP	--	9441/12-00-00
Power Module (PM)	Zone 1 / Division 1	--	24 V DC	9444/12-11
Sockets for CPU & Power Module	Zone 1	Modbus TCP, not redundant	24 V DC	9492/12-11-11
		Modbus TCP, redundant	24 V DC	9492/12-11-12
	Division 1	Modbus TCP, not redundant	24 V DC	9492/13-13-11
		Modbus TCP, redundant	24 V DC	9492/13-13-12

Explosion Protection				
Version	CPU Module	Power Module (PM)	Sockets for CPU & Power Module Zone 1	Sockets for CPU & Power Module Division 1
<b>Certificates</b>				
IECEX	IECEX KEM 08.0035X	IECEX KEM 08.0035X	IECEX KEM 08.0035X	--
Europe (ATEX)	KEMA 08 ATEX 0155 X	KEMA 08 ATEX 0155 X	KEMA 08 ATEX 0155 X	--
USA (NEC)	in preparation	in preparation	--	in preparation
<b>Marking</b>				
IECEX	Ex db [ia] [op isa T6] IIC T4 [Ex ia IIIC]	Ex db eb [ia] IIC T4 [Ex ia IIIC]	Ex db eb [ia] IIC T4 [Ex ia IIIC]	--
Europe (ATEX)	⊕ II 2 (1) G Ex d [ia] [op is T6] IIC T4 ⊕ II (1) D [Ex iaD]	⊕ II 2 (1) G Ex de [ia] IIC T4 ⊕ II (1) D [Ex iaD]	⊕ II 2 (1) G Ex de [ia] IIC T4 ⊕ II (1) D [Ex iaD]	--
USA (NEC)	in preparation	in preparation	--	in preparation

Technical Data	
<b>Safety data</b>	
Connection of the BusRail	intrinsically safe supply and address / data transmission of the I/O modules
Connection to the fibre optic cable	„Ex op is“ according to IEC 60079-28
Max. radiation power	≤ 15 mW
Isolation voltage U <sub>m</sub>	≤ 253 V AC
Further information	see certificates
<b>Ethernet interface</b>	
Interface	Fibre optic cable, 100BASE-FX, Ex op is
Communication protocol	Modbus TCP
Transfer rate	max. 100 MBit/s
Max. line length	2000 m / 6562 ft
<b>Operator interface</b>	
Ethernet status	LED green "LINK"
Operation CPU, PM	LED green "RUN"
Fault CPU, PM, I/O	LED red "ERR"
Power supply PM	LED green "PWR IN"
Outputs PM	LED green "PWR OUT"
LCD indication	2 x 16 pixel
Settings	IP address, Subnet mask, Gateway address
Indications	IP address, alarm signals / faults, information (type, revision etc.) for field station, modules and signals, input and output values



## Technical Data

### Diagnostics

CPU & Power Module

- Hardware fault
- Configuration fault

I/O Modules

- Internal primary bus faults
- Internal redundant bus faults
- No response
- Configuration does not correspond to the module
- Hardware fault

Further I/O module  
fault indications

see data sheets of the I/O modules

### Power supply

Nominal voltage

24 V DC

Voltage range

20 ... 35 V DC

Current consumption  
without I/O modules

approx. 0.36 A at 24 V DC

Actual current consumption  
with 8 I/O modules

approx. 2.6 A at 24 V DC

Power dissipation

without I/O modules

8.6 W

with 8 I/O modules

14 W

Reverse polarity protection

yes

Defined behaviour  
at undervoltage

yes

Power supply for the  
I/O modules via the BusRail

Voltage range

22.5 ... 26.2 V DC

Maximum current

2 A

Maximum number  
of the I/O modules

8

Redundant supply  
of the I/O modules

yes (decoupled with diodes)

Undervoltage monitoring

yes

### Mechanical data

Module enclosure

Polyamide 6GF

Fire protection class (UL 94)

V2

Degree of protection  
(IEC 60529)

IP30

### Connection

Ethernet

Fibre optic cable, 100BASE-FX; Multimode 62.5/125, LC-connector

ServiceBus RS 485

Copper cable, Sub-D socket 9 pin

Power supply

Pig tail, length 5 m / 16.4 ft for 9492/12-11-.. and conduit hub for 9492/13-13-..

### Galvanic isolation

between power supply and  
system components

1500 V AC

between  
ServiceBus interface and  
system components

500 V AC

### Installation conditions

Mounting type

on the mounting plate

Installation position

Vertical

Enclosure

Sheet steel or stainless steel

## Technical Data

### Ambient conditions

Ambient temperature	- 20 ... + 65 °C / - 4 ... + 149 °F
Storage temperature	- 40 ... + 80 °C / - 40 ... + 158 °F
Maximum relative humidity	95 % (no condensation)
Vibration, sinusoidal (IEC EN 60068-2-6)	1 g in frequency range 13 ... 200 Hz
Shock, semi-sinusoidal (IEC EN 60068-2-27)	15 g (3 shocks per axis and direction)
Electromagnetic compatibility	Tested to the following standards and regulations: EN 61 326-1 (1998) IEC 1000-4-1...6, NAMUR NE 21

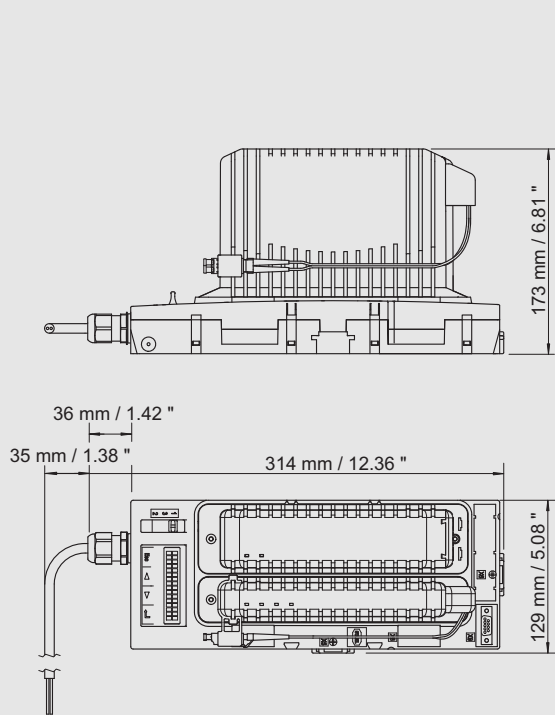
## Accessories and Spare Parts

Designation	Version	Order number	Weight kg / lbs
Media converter	Single port fibre switch of 10/100 Base-Tx (4 x RJ45 ports) to 100 Base-Fx „Ex op is“ (1 x fibre optic cable port MTRJ), inclusive patch cable VB-SC-SC	<b>104236</b>	1.000 / 2.205
	4 ports fibre switch of 100 Base-Fx „Ex op is“ (4 x fibre optic cable ports MTRJ) to 100 Base-Tx (1 x RJ45 port), inclusive 4 x patch cable VB-SC-SC	<b>168473</b>	0.227 / 0.500



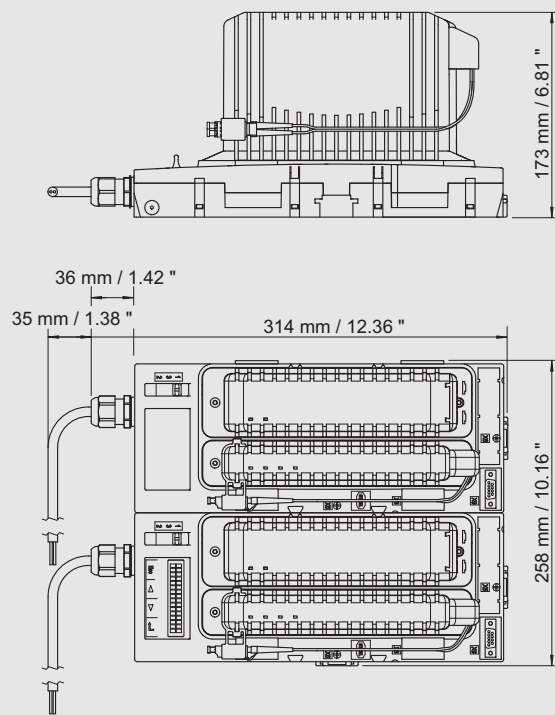


**Dimensional Drawings** (all Dimensions in mm / inches) - Subject to Alterations



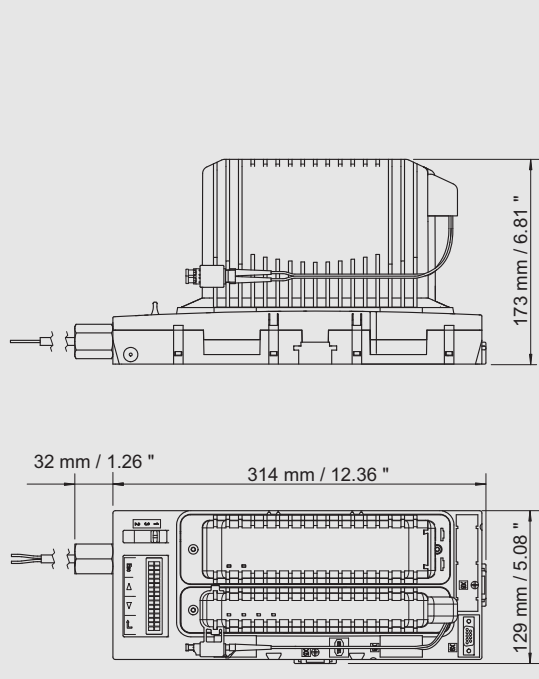
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**Ethernet CPU Module & Power Module Series 9441 and 9444  
with Socket for Zone 1 Series 9492/12-11-11**



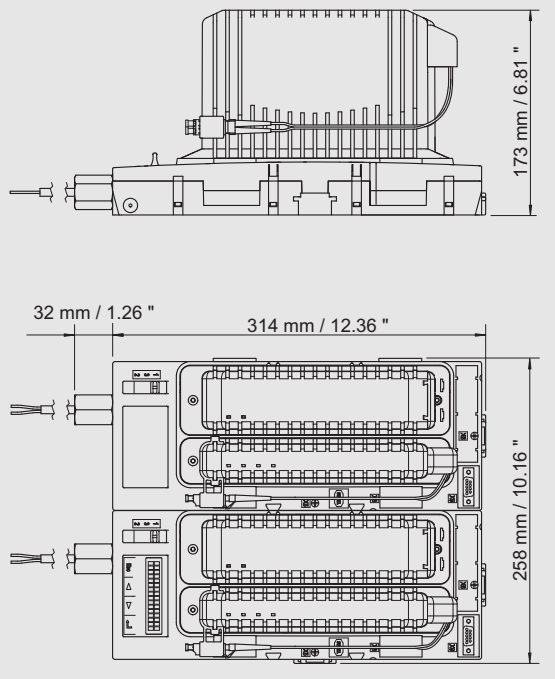
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**Ethernet CPU Module & Power Module Series 9441 and 9444  
with redundant Socket for Zone 1 Series 9492/12-11-12**



12571E00

**Ethernet CPU Module & Power Module Series 9441 and 9444  
with Socket for Div. 1 Series 9492/13-13-11**



12572E00

**Ethernet CPU Module & Power Module Series 9441 and 9444  
with redundant Socket for Div. 1 Series 9492/13-13-12**

We reserve the right to make alterations to the technical data, weights, dimensions, designs and products available without notice. The illustrations cannot be considered binding.