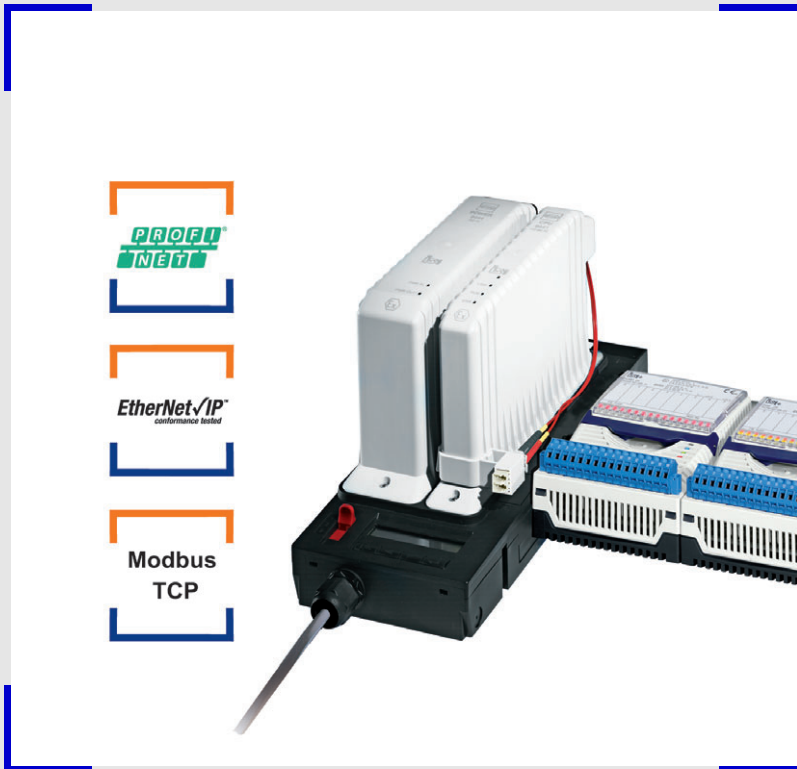


# Ethernet CPU Module & Power Module for Zone 1 / Div. 1

## Series 9441/12 and 9444/12



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- > Fieldbus connection Industrial Ethernet PROFINET, Modbus TCP or EtherNet/IP with 100 MBit/s
- > Redundant Ethernet connection (Modbus TCP) 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
- > LCD to indicate diagnostic data and determine IP addresses
- > Modules can be replaced in operation (hot swap)



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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 .

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.

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

The configuration and diagnostics of the system and the connected field devices are carried out via Ethernet with GSDML (PROFINET) or DTM and web server.



	ATEX / IECEx						NEC 505						NEC 506						NEC 500								
	Zone		Ex interface		Installation in		Class I		Class II		Class III		Division		Ex interface		Installation in		Class I		Class II		Class III				
	0	1	2	20	21	22		0	1	2	20	21	22		0	1	2	20	21	22		1	2	1	2	1	2
Ex interface		x	x		x	x	Ex interface		x	x		x	x	Ex interface	x	x	x	x	x	x	x	x	x	x			
Installation in		x	x		x	x	Installation in		x	x		x	x	Installation in	x	x	x	x	x	x	x	x	x	x			

**WebCode 9441A**

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### Selection table

Version	Installation in	Fieldbus	Power supply	Order number
CPU Module	Zone 1 / Division 1	PROFINET, Modbus TCP, EtherNet/IP	--	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, simplex	24 V DC	9492 / 12-11-11
		Modbus TCP, redundant	24 V DC	9492 / 12-11-12
		PROFINET, simplex	24 V DC	9492 / 12-11-31
		EtherNet/IP, simplex	24 V DC	9492 / 12-11-41
	Division 1	Modbus TCP, simplex	24 V DC	9492 / 13-13-11
		Modbus TCP, redundant	24 V DC	9492 / 13-13-12
		PROFINET, simplex	24 V DC	9492 / 13-13-31
		EtherNet/IP, simplex	24 V DC	9492 / 13-13-41

### Explosion protection

Version	CPU Module	Power Module (PM)	Sockets for CPU & Power Module Zone 1	Sockets for CPU & Power Module Division 1
<b>Global (IECEX)</b>				
Gas and dust	IECEX KEM 08.0035X Ex d [ia Ga] [op is T6 Ga] IIC T4 Gb [Ex ia Da] [Ex op is Da] IIC	IECEX KEM 08.0035X Ex d e [ia Ga] IIC T4 Gb [Ex ia Da] IIC	IECEX KEM 08.0035X Ex d e [ia Ga] IIC T4 Gb [Ex ia Da] IIC	--
<b>Europe (ATEX)</b>				
Gas and dust	KEMA 08 ATEX 0155 X ⊕ II 2 (1) G Ex d [ia Ga] [op is T6 Ga] IIC T4 Gb ⊕ II (1) D [Ex ia Da] [Ex op is Da] IIC	KEMA 08 ATEX 0155 X ⊕ II 2 (1) G Ex d e [ia Ga] IIC T4 Gb ⊕ II (1) D [Ex ia Da] IIC	KEMA 08 ATEX 0155 X ⊕ II 2 (1) G Ex d e [ia Ga] IIC T4 Gb ⊕ II (1) D [Ex ia Da] IIC	--
<b>Certificates</b>	IECEX, ATEX, Brazil (INMETRO), India (PESO), Canada (cFM), Kazakhstan (GOST K), Russia (GOST R), Serbia (SRPS), USA (FM), Belarus (operating authorisation)			Canada (cFM), USA (FM)
Ship approval	DNV, BV, LR, GL			
<b>Safety data</b>	intrinsicly safe supply and address / data transmission of the I/O modules			
Connection of the BusRail	„Ex op is“ according to IEC 60079-28			
Connection to the fibre optic cable	„Ex op is“ according to IEC 60079-28			
Max. radiation power	≤ 15 mW			
Insulation voltage U <sub>m</sub>	≤ 253 V AC			
<b>Further parameters</b>	in Zone 1, Division 1			
Installation	in Zone 1, Division 1			
Further information	see respective certificate and operating instructions			

# Ethernet CPU Module & Power Module for Zone 1 / Div. 1

## Series 9441/12 and 9444/12



### Technical Data

#### Electrical data

Ethernet interface	
Interface	Fibre optic cable, 100BASE-FX, Ex op is (IEC 60079-28)
Communication protocols	Modbus TCP, EtherNet/IP, PROFINET
Transfer rate	max. 100 MBit/s
Max. line length	2000 m / 6562 ft
Operator interface	
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
Diagnostics	
CPU & Power Module	<ul style="list-style-type: none"> <li>• Hardware fault</li> <li>• Configuration fault</li> </ul>
I/O Modules	<ul style="list-style-type: none"> <li>• Internal primary bus faults</li> <li>• Internal redundant bus faults</li> <li>• No response</li> <li>• Configuration does not correspond to the module</li> <li>• Hardware fault</li> </ul>
Further I/O module fault indications	see data sheets of the I/O modules
Auxiliary power	
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
Max. current	2 A
Max. number I/O modules	8
Redundant supply of the I/O modules	yes (decoupled with diodes)
Undervoltage monitoring	yes
Connection	
Ethernet	Fibre optic cable, 100BASE-FX; Multimode 62.5/125, LC-connector
Power supply	Pig tail, length 5 m / 16.4 ft for 9492/12-11-.. and conduit hub for 9492/13-13-..
Galvanic separation	
between power supply and system components	1500 V AC
between ServiceBus interface and system components	500 V AC
<b>Ambient conditions</b>	
Ambient temperature	-20 ... +65 °C / -4 ... +149 °F
Storage temperature	-20 ... +80 °C / -4 ... +158 °F
Maximum relative humidity	95 % (no condensation)
Sinusoidal vibration (IEC EN 60068-2-6)	1 g in frequency range 13 ... 200 Hz
Semi-sinusoidal shock (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

# Ethernet CPU Module & Power Module for Zone 1 / Div. 1

## Series 9441/12 and 9444/12



### Technical Data

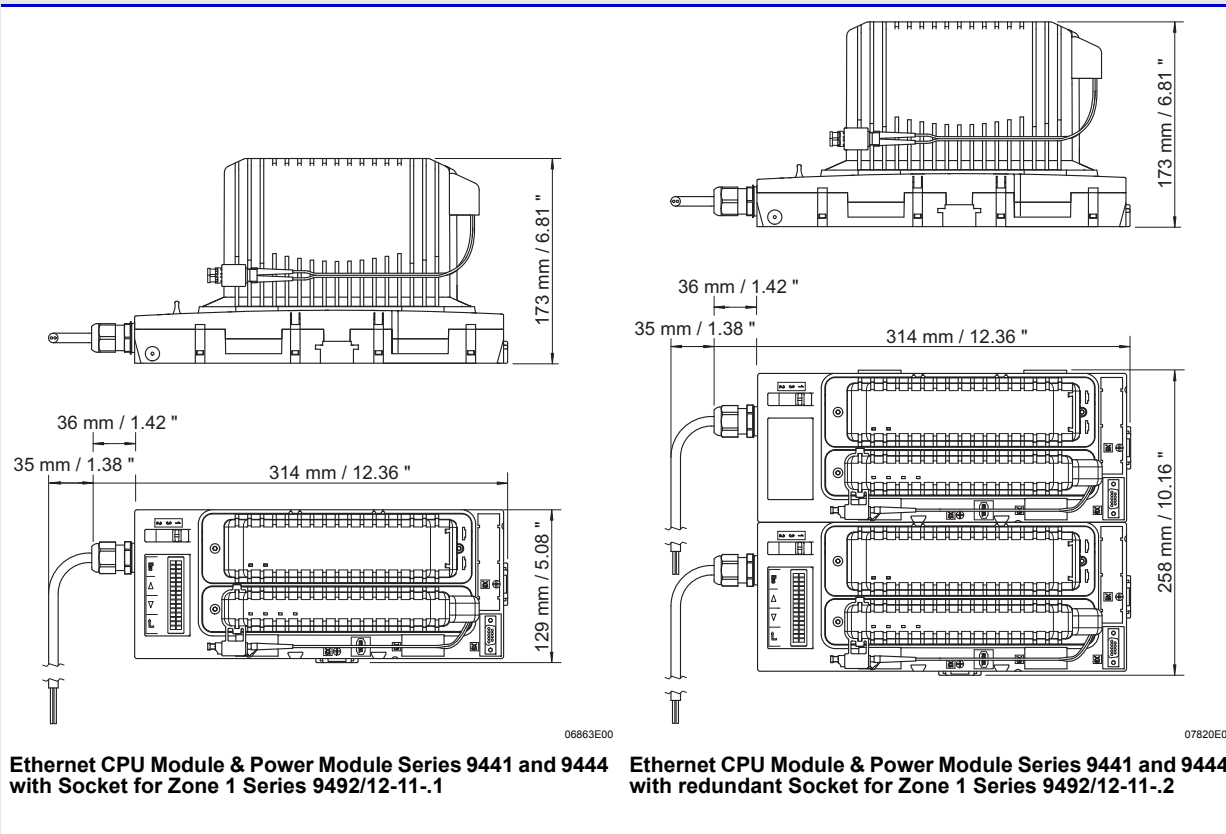
#### Mechanical data

Module enclosure	Polyamide 6GF
Fire resistance (UL 94)	V2
Degree of protection (IEC 60529)	IP30

#### Mounting / installation

Mounting type	on the mounting plate
Mounting orientation	Vertical
Enclosure	Sheet steel or stainless steel

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

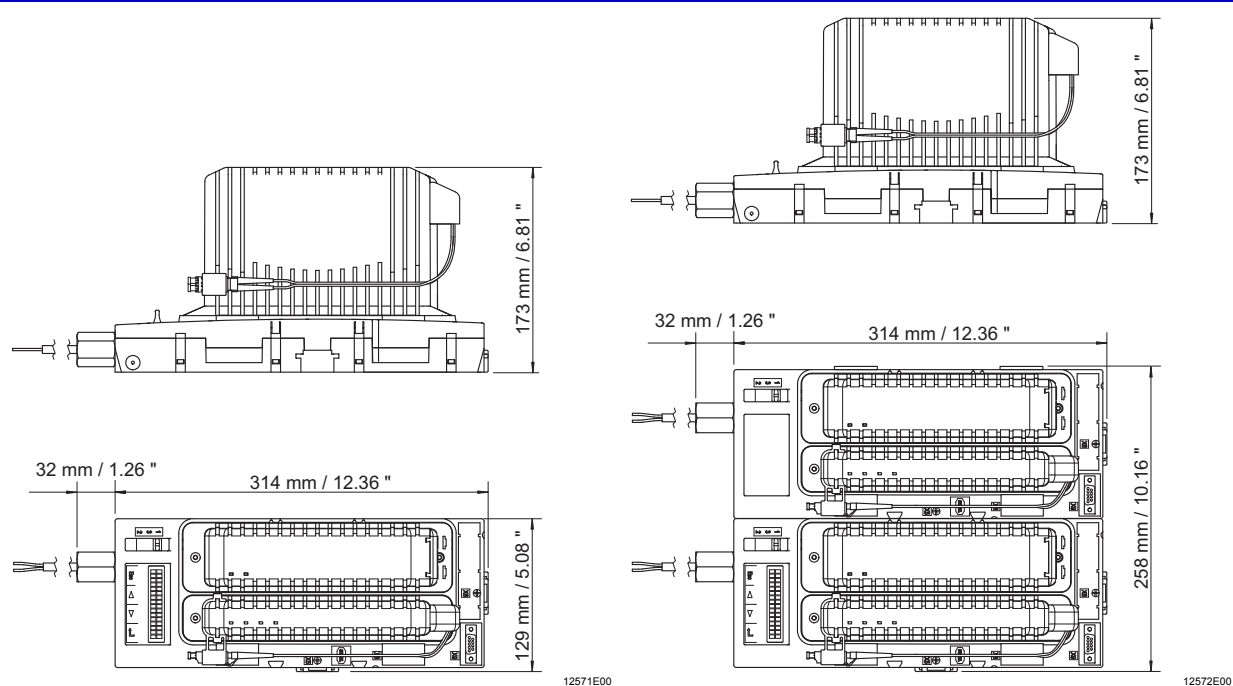


# Ethernet CPU Module & Power Module for Zone 1 / Div. 1

## Series 9441/12 and 9444/12



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






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

Ethernet CPU Module & Power Module Series 9441 and 9444 with redundant Socket for Div. 1 Series 9492/13-1-2

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### Accessories and Spare Parts

Designation	Figure	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)	<b>202211</b>	0.206 / 0.454
		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)	<b>202212</b>	0.227 / 0.500
		Patch cable for connection of IS1+ Ethernet CPU 9441 with media converter 202211 (Switch SK-KJ1710 1FX 4TX) and 202212 (Switch SK-KJ1740 4FX 1TX); plug LC / MTRJ; lenght 3 m	<b>202610</b>	0.029 / 0.064

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