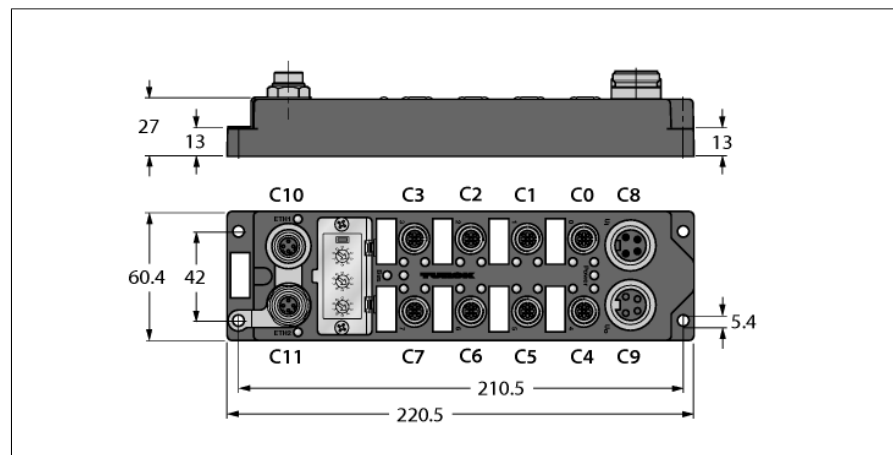


Compact multiprotocol I/O module for Ethernet

16 digital outputs 2 A

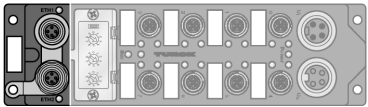
FGEN-OM16-4001



- Multiprotocol I/O module for the Ethernet protocols Modbus TCP, EtherNet/IP and PROFINET
- PROFINET supports Fast Startup (FSU)
- Ethernet/IP supports QuickConnect (QC)
- Integrated Ethernet switch
- FDT / DTM supported
- Output diagnostics per channel
- Two outputs per port
- 7/8", 4-pin to power supply
- Power supply, galvanically separated
- Fibre-glass reinforced PA6 housing
- Vibration and shock-resistant
- Encapsulated module electronics
- Metal connector
- Protection class IP67

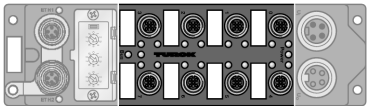
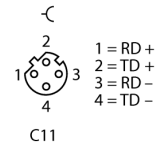
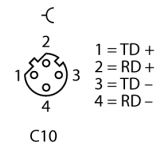
Type	FGEN-OM16-4001
ID	6825426
Number of channels	16
Operating / load voltage	18...30 VDC
Operating current	< 200 mA
Electrical isolation	operating and load voltage galvanically separated
Voltage supply connection	2 x 7/8"
Outputs	
Number of channels	(16) DC actuators
Output voltage	18...30 VDC from load voltage UL
Output current per channel	2.0 A, short-circuit proof
Load type	resistive, inductive, lamp load
Simultaneity factor	0.25 for entire module 1* 2A or 2* 1A per port total current max. 9 A per module
Electrical isolation	galvanically separated against the bus
System data	
Transmission rate	10/100 Mbps; Full/Half Duplex; Auto Negotiation; Auto Crossing
Connection technology Ethernet	2 x M12 x 1 female connector, 4-pin, D-coded
Protocol detection	automatic
Web server	from FW 3.1.0.0
Service interface	Ethernet
Modbus TCP	
Addressing	Static IP, BOOTP, DHCP
Supported function codes	FC1, FC2, FC3, FC4, FC5, FC6, FC15, FC16, FC23
Number of TCP connections	8
Ethernet/IP	
Addressing	acc. to EtherNet/IP specification
Quick Connect (QC)	< 150 ms
Device Level Ring (DLR)	supported
Class 3 connections (TCP)	3
Class 1 connections (CIP)	10

PROFINET	
Addressing	DCP
Conformance class	B (RT)
MinCycleTime	1 ms
Fast Start-Up (FSU)	< 150 ms
Diagnostics	acc. to PROFINET alarm handling
Topology detection	supported
Automatic addressing	supported
Dimensions (W x L x H)	60 x 220.5 x 27 mm
Housing material	fibre-glass reinforced Polyamide (PA6-GF30)
Halogen-free	yes
Mounting	4 mounting holes Ø 5,4 mm
Ambient temperature	0...+55 °C
Storage temperature	-25...+70 °C
Altitude	Max. 5000 m
Vibration test	Acc. to EN 60068-2-6
Shock test	acc. to EN 60068-2-27
Electromagnetic compatibility	Acc. to EN 61131-2
Protection class	IP67
MTTF	191 years
Approvals	CE, cULus
UL Certificate	pol. deg.2, env. temp. max. 40 °C, cl.2 ps req.



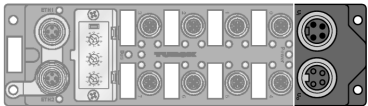
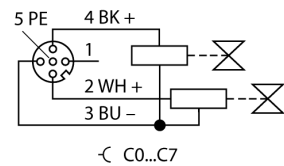
Note
Ethernet cable (example):
RSSD-RSSD-441-2M/S2174
Ident no. 6914218

M12 x 1 Ethernet



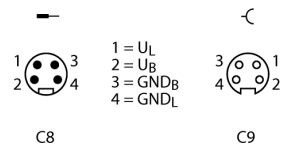
Note
Connection cable , 2-channel (example):
RK 4.4T-2-RS 4.4T
Ident no. U2445
Splitter, 1-channel (example):
YB2-FSM 4.5-2FKM 4.5
Ident no. U0875-78

M12 x 1 Output



Note
Power supply cable (example):
RKM43-1-RSM43
Ident no. 6914312

7/8" Power Supply



LED status module

LED	Color	Status	Description
ETH1 / ETH2	green	on	Ethernet Link (100 Mbps)
		flashing	Ethernet communication (100 Mbps)
	yellow	on	Ethernet Link (10 Mbps)
		flashing	Ethernet communication (10 Mbps)
		off	no Ethernet link
Bus	green	on	Active connection to a master
		flashing	ready
	red	on	IP address conflict or Restore Mode
		flashing	Blink/Wink command active
		off	No power supply
Power	green	on	Operating voltage U_s and load voltage U_L within the defined tolerances
	red	on	Load voltage U_L below the defined tolerances
		off	Operating voltage U_s below the defined tolerances

LED status IOs

LED	Color	Status	Description
C0.O1 ... C7.O16	green	on	Output active
	red	on	Output active with overload / short circuit
		off	Output inactive

Process data mapping of single protocols

Modbus TCP Register Mapping

	Reg	Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Status (RO)	0x0000	-	FCE	-	-	CFG	COM	UB	-	UL	-	-	-	-	-	-	Diag Warn
Diag (RO)	0x0001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	I/O Diag
Outputs (RW)	0x0800	DO15 C7P2	DO14 C7P4	DO13 C6P2	DO12 C6P4	DO11 C5P2	DO10 C5P4	DO9 C4P2	DO8 C4P4	DO7 C3P2	DO6 C3P4	DO5 C2P2	DO4 C2P4	DO3 C1P2	DO2 C1P4	DO1 C0P2	DO0 C0P4
I/O Diag (RO)	0xA000	SCO7	SCO6	SCO5	SCO4	SCO3	SCO2	SCO1	SCO0	-	-	-	-	-	-	-	-
I/O Diag (RO)	0xA001	-	-	-	-	-	-	-	-	SCO15	SCO14	SCO13	SCO12	SCO11	SCO10	SCO9	SCO8

EtherNet/IP™ data mapping with activated Scheduled Diagnostics

	Word	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Input data (Station -> Scanner)																
GW Status	1	FCE	-	-	CFG	COM	UB	-	UL	-	-	-	-	-	-	Diag Warn
Diag 1	2	-	Sched Diag	-	-	-	-	-	-	-	-	-	-	-	-	I/O Diag
Diag 2	3	SCO6	SCO5	SCO4	SCO3	SCO2	SCO1	SCO0	-	-	-	-	-	-	-	-
Diag 3	4	-	-	-	-	-	-	-	SCO15	SCO14	SCO13	SCO12	SCO11	SCO10	SCO9	SCO8
Output (Scanner -> Station)																
Control	1	reserved														
Outputs	2	DO14 C7P4	DO13 C6P2	DO12 C6P4	DO11 C5P2	DO10 C5P4	DO9 C4P2	DO8 C4P4	DO7 C3P2	DO6 C3P4	DO5 C2P2	DO4 C2P4	DO3 C1P2	DO2 C1P4	DO1 C0P2	DO0 C0P4

EtherNet/IP™ data mapping with activated Summarized Diagnostics

	Word	Bit 15	Bit 14	Bit 13	Bit 12	Bit 11	Bit 10	Bit 9	Bit 8	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Input data (Station -> Scanner)																	
GW Status	1	-	FCE	-	-	CFG	COM	UB	-	UL	-	-	-	-	-	-	Diag Warn
Diag 1	2	-															I/O Diag
Output (Scanner -> Station)																	
Control	1	reserved															
Outputs	2	DO15 C7P2	DO14 C7P4	DO13 C6P2	DO12 C6P4	DO11 C5P2	DO10 C5P4	DO9 C4P2	DO8 C4P4	DO7 C3P2	DO6 C3P4	DO5 C2P2	DO4 C2P4	DO3 C1P2	DO2 C1P4	DO1 C0P2	DO0 C0P4

PROFINET Process Data

	Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
Outputs	0	DO7 C3P2	DO6 C3P4	DO5 C2P2	DO4 C2P4	DO3 C1P2	DO2 C1P4	DO1 C0P2	DO0 C0P4
	1	DO15 C7P2	DO14 C7P4	DO13 C6P2	DO12 C6P4	DO11 C5P2	DO10 C5P4	DO9 C4P2	DO8 C4P4

Legend:

DI	Digital input	COM	Communication error on internal module bus
DO	Digital output	CFG	I/O configuration error
Cx	female	FCE	I/O-ASSISTANT Force Mode active
Px	Pin	I/ODiag	I/O diagnostics available
DiagWarn	Diagnostic at least on 1 channel	SchedDiag	Manufacturer-specific diagnostics configured and active
UL	Undervoltage UL	SCSx	Short-circuit on sensor supply at female x
UB	Undervoltage UB	SCOx	Short-circuit output x