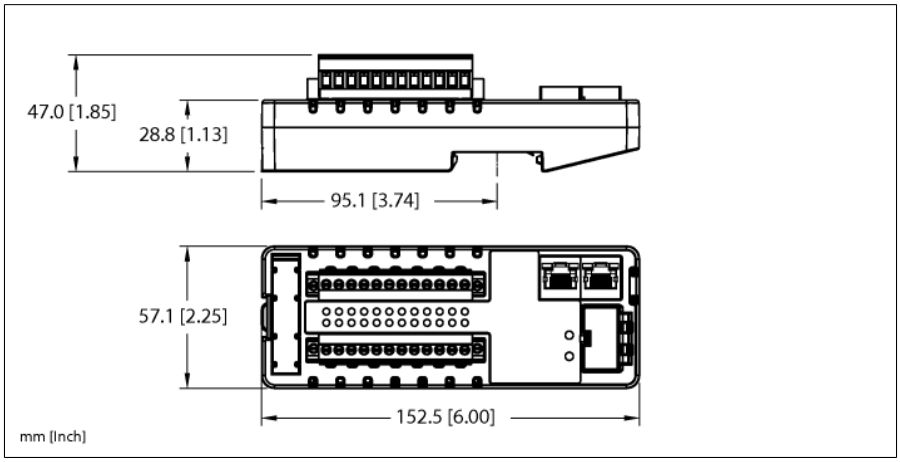
Compact IP20 Multiprotocol I/O Station
FEN20-8IOL



- FLC/ARGEE programmable
- EtherNet/IP™ device, PROFINET device, CC-Link device, or Modbus TCP server
- Integrated Ethernet Switch
- 10 Mbps / 100 Mbps supported
- 2 x RJ45 Sockets for Fieldbus Connection
- $V1+_0 \ldots V1+_7$ configurable as on, switchable, or as digital inputs.
- IO-Link master port class A
- IO-Link protocol 1.1
- Protection class IP20

ID	200011348
Supply	
Supply voltage	24 VDC
Admissible range	18...30 VDC
System power supply	Supply from V1A and V1B 5A each
Voltage supply connection	Screw terminals
Operating current	150 mA
Electrical isolation	500V Galvanic Zone-Zone and Zone-Ethernet
Power dissipation, typical	≤ 3.6 W
System data	
Transmission rate Ethernet	10/100 Mbps, Full/Half Duplex, Auto Negotiation, Auto Cross
Terminal cross-section	0.2…1.5 mm² (AWG: 26…14)
Connection technology Ethernet	2 × RJ45
Fieldbus address range	0 (192.168.1.254)
Protocol detection	automatic
Web server	192.168.1.254 (Default)
Service interface	Ethernet
Field Logic Controller (FLC)	
ARGEE Firmware Version	ARGEE compatible device
Modbus TCP	
Addressing	Static IP, BOOTP, DHCP
Supported function codes	FC1, FC2, FC3, FC4, FC5, FC6, FC15, FC16, FC23
Number of TCP connections	6
Input register start address	0 (0x0000 hex)
Output register start address	2048 (0x0800 hex)
Ethernet/IP	
Addressing	acc. to EtherNet/IP specification
Quick Connect (QC)	< 400 ms
Device Level Ring (DLR)	supported
Class 1 connections (CIP)	6
Input Assembly Instance	103
Output Assembly Instance	104
Configuration Assembly Instance	106

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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
Media Redundancy Protocol (MRP)	supported

CC-Link	
Interface	CC-Link IE Field Basic
Type	Intelligent device station
Message Transmission	Yes
Profile specification	CSP+
Max. occupied stations	4
IP change mechanism	Yes
Acyclic SLMP communication	Yes

Digital inputs	
Number of channels	8 DXP + 8 SIO
Connectivity inputs	Screw terminals
Input type	PNP
Low-level signal voltage	-3...5 VDC (EN 61131-2, type 1 and 3)
High level signal voltage	11...30 VDC (EN 61131-2, type 1 and 3)
Low level signal current	< 1.5 mA
High level signal current	> 2 mA
Input delay	2.5 ms

Digital outputs	
Number of channels	8 DXP + 8 SIO
Connectivity outputs	Screw terminals
Type of output diagnostics	Channel diagnostics
Output voltage	12…30 VDC
Output current per channel	DXP: 1A via V1+ ; SIO: 250mA via C/Q
Load type	Resistive, inductive, lamp load
Short-circuit protection	yes

IO-Link	
Number of channels	8
IO-Link specification	V 1.1
IO-Link port type	Class A
Frame type	Supports all specified frame types
Supported devices	Max. 32 bytes in/32 bytes out per port
Transmission rate	4.8 kbps (COM 1) / 38.4 kbps (COM 2) / 230 kbps (COM 3)

Standard/Directive conformity	
Vibration test	Acc. to IEC 60068-2-6
Shock test	acc. to IEC 60068-2-27
Approvals and certificates	cULus, contamination level 2, class 2 power supply required

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General Information	
Dimensions (W x L x H)	57.1 x 152.2 x 46.7 mm
Ambient temperature	-25…+60 °C
Storage temperature	-40…+85 °C
Altitude	Max. 5000 m
Protection class	IP20
MTTF	114 years acc. to SN 29500 (Ed. 99) 20 °C
Housing material	Fiber-glass reinforced Polyamide (PA6-GF30)
Housing color	Black
Tightening torque fixing screw	Screw terminals = max. 0.7 Nm

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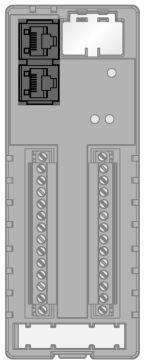
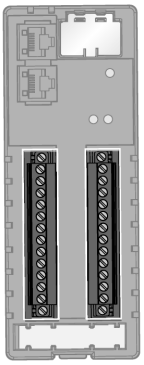


Ethernet
Fieldbus cable (example): RJ45S RJ45S 441-2M (Ident No. U-06842)

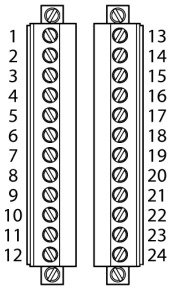
Ethernet RJ45

1 = TX +
2 = TX –
3 = RX +
4 = n.c.
5 = n.c.
6 = RX –
7 = n.c.
8 = n.c.



Power Supply and I/O Channels
The internal module electronics and the I/O channels 1 to 4 are supplied via $V1_A$.
The I/O channels 5 to 8 are supplied via $V1_B$.
$V1_A$ and $V1_b$ share a common ground.
$V1+_1$ … $V1+_8$ are configurable as on or as DXP.
Recommended torque for screw terminals: 0.7 Nm (8.85 lb.in)
Copper wires only rated at 90°C minimum.
Connection to PELV/SELV voltages only.

Terminal Connection



1 = $V1_A$+	13 = $V1_B$+
2 = V-	14 = V-
3 = C/Q 0	15 = C/Q 4
4 = V1+ 0	16 = V1+ 4
5 = C/Q 1	17 = C/Q 5
6 = V1+ 1	18 = V1+ 5
7 = V-	19 = V-
8 = C/Q 2	20 = C/Q 6
9 = V1+ 2	21 = V1+ 6
10 = C/Q 3	22 = C/Q 7
11 = V1+ 3	23 = V1+ 7
12 = V-	24 = V-

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Module Status LED

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
		Flashes 3x (1 Hz)	ARGEE program running
	Red	ON	IP address conflict or status word is active
		Flashing	Blink/Wink command active
		OFF	Power off
ERR	Green	ON	Diagnostics disabled
	Red	ON	Short circuit Wrong or Missing Device