Description

- IO-Device, Multiprotocol (PROFINET, EtherNet/IP, EtherCAT, Modbus TCP, CC-Link), IoT Protocols (OPC UA, MQTT, CoAP, REST)
- 16 digital in-/output- channels (universal I/O) (2 A)
- metal housing IP65, IP67, IP69K
- 8 x M12 A-coded I/O connection 5-poles
- 2 x M12 D-coded Ethernet connection 4-poles
- 2 x M12 L-coded power supply

General characteristics

Device Type	IO Device
Protocol	Multiprotocol
I/O Function	16 DIO
Bus Connection	M12, 4-poles, D-coded, female
Power Connection (System Supply)	M12 Power, 5-poles, L-coded, male
I/O Connection	M12, 5-poles, A-coded, female
I/O Type	Digital Input/Output (Universal)
Protection Degree / IP Rating	IP65 / 67 / 69
Ambient Temperature (Operation)	-40 °C to 70 °C
Ambient Temperature (Storage/Transport)	-40 °C to 70 °C
Permissible Humidity (Operation)	5 % ... 95 % (For UL applications max. 80 %)
Permissible Humidity (Storage/Transport)	5 % ... 95 % (For UL applications max. 80 %)
Air Pressure (Operation)	80 kPa ... 106 kPa (up to 2000 m above sea level)
Air Pressure (Storage/Transport)	80 kPa ... 106 kPa (up to 2000 m above sea level)
Protection Class	III, IEC 61140, EN 61140, VDE 0140-1
Pollution Degree	3 acc. to EN 60664-1, VDE 0110-1
Mean Time To Failure (MTTF) @ 20°C	3788424 h
Fastening Torque (Fixing Screw)	M4: 1 Nm
Fastening Torque (Ground Connection (FE))	M4: 1 Nm
Fastening Torque (Bus Connection)	M12: 0.5 Nm
Fastening Torque (Power Connection)	M12: 0.5 Nm
Fastening Torque (I/O Connection)	M12: 0.5 Nm
IIoT Protocols	OPC UA, MQTT, REST API, CoAP (Cyclic data read/write, Diagnosis data, Event data)

Variation

Article	Description	Amount of IO Ports
381166718	UNITRONIC ACCESS MP08DIO08DIO	8

Power and interfaces requirements

Connection Module Supply Voltage	M12 Power, 5-poles, L-coded
Number of Connections	2
Module Supply Voltage	24 V DC (18-30VDC) (SELV/PELV)
Current consumption (typ.)	160 mA (at 24VDC)
Connection Sensor Supply Voltage	M12 Power, 5-poles, L-coded
Sensor Supply Voltage	24 V DC (18-30 VDC) (SELV/PELV)
Actuator Supply Voltage	24 V DC (18-30 VDC) (SELV/PELV)
Reverse Polarity Protection	Yes
Status Indicator (Actuator Supply)	LED green
Diagnostic Indicator	LED red

Physical properties

Housing Material	Metal, zinc die-cast
Housing Plating	Nickel, matt
Housing Color	Grey Metallic
Potted	Yes
Weight	480 g
Contact Base Material	M12, D-coded, CuSn, Gold-plated | M12 Power, L-coded, CuNi, Gold-plated
Contact Bearer Material	PA / TPU
O-Ring Material	FKM
Mounting	2 hole screw mounting. Use standard M4 x 25 / 30 screws with toothed lock washer (as per DIN 125) and self-locking nuts.

Profinet

Protocol	PROFINET
Connection	M12 4-poles, D-coded
Number of Connections	2
Specification	V2.3
Conformance Class	C (CC-C)
Performance Class	RT (switch supports IRT)
Netload Class	III
Transmission Rate	Fast Ethernet (10/100 Mbit/s), Full Duplex
Transmission Method	100 BASE-TX, with auto negotiation and auto crossing
Cycle Time / Update Rate	min. 1 ms
Addressing	DCP
Fast Startup (FSU)	Supported, ≤ 4000 ms
Media Redundancy Protocol (MRP)	Supported, MRP client
Shared Device	Supported
Shared Input	not supported
Topology Detection	LLDP, SNMP V3
Easy Device Replacement	Supported, based on LLDP
Supported Network Protocols (Other)	ARP, HTTP, Ping, SNMP V1, TCP/IP

Ethernet/IP

Protocol	EtherNet/IP
Connection	M12, 4-poles, D-coded
Number of Connections	2
Specification	CIP V3.2x, EIP Adaption of CIP V1.2x
Transmission Rate	Fast Ethernet (10/100 Mbit/s), Full Duplex
Transmission Method	100 BASE-TX, with auto negotiation and auto crossing
Cycle Time / Requested Packet Interval (RPI)	min. 1 ms
Addressing	BootP, DHCP, Rotary Address Switches
Connection Types	Exclusive Owner, Input Only, Listen Only
CIP Msg Connection Limit	6
CIP I/O Connection Limit	3
Device Level Ring (DLR)	Supported, beacon based
Quick Connect (QC)	Supported, ≤ 500 ms
Supported Network Protocols (Other)	ACD, ARP, BootP, DHCP, HTTP, IGMP, Ping, TCP/IP

EtherCAT

Protocol	EtherCAT
Connection	M12 4-poles, D-coded
Number of Connections	2
Specification	ETG.1000 V1.2
Transmission Rate	Fast Ethernet (10/100 Mbit/s), Full Duplex
Transmission Method	100 BASE-TX, with auto negotiation and auto crossing
Cycle Time / Update Rate	min. 250 µs
Addressing	Auto-increment addressing, fixed position addressing
Mailbox Protocols	CANopen over EtherCAT (CoE), File access over EtherCAT (FoE), Ethernet over EtherCAT (EoE)
Supported Network Protocols (Other)	Over EoE: HTTP, Ping, TCP/IP

CC-Link IE Field Basic

Protocol	CC-Link IE Field Basic
Connection	M12 LAN, 4-poles. D-coded
Number of Connections	2
Specification	v2
Transmission Rate	Fast Ethernet (100 Mbit/s), Full Duplex
Transmission Method	100 BASE-TX, with auto negotiation and auto crossing
Cycle Time / Update Rate	min. 1ms
Number of stations	4
Supported Network Protocols	SNMP, ACD, ARP, HTTP, IGMP, Ping, TCP/IP
Supported IIoT Protocols	OPC UA, MQTT, CoAP, Syslog, Node Red

Modbus TCP

Protocol	Modbus TCP
Connection	M12, 4-poles, D-coded
Number of Connections	2
Specification	Modbus application protocol V1.1b
Supported network protocols	SNMP V1, HTTP, TFTP, FTP, BootP, DHCP

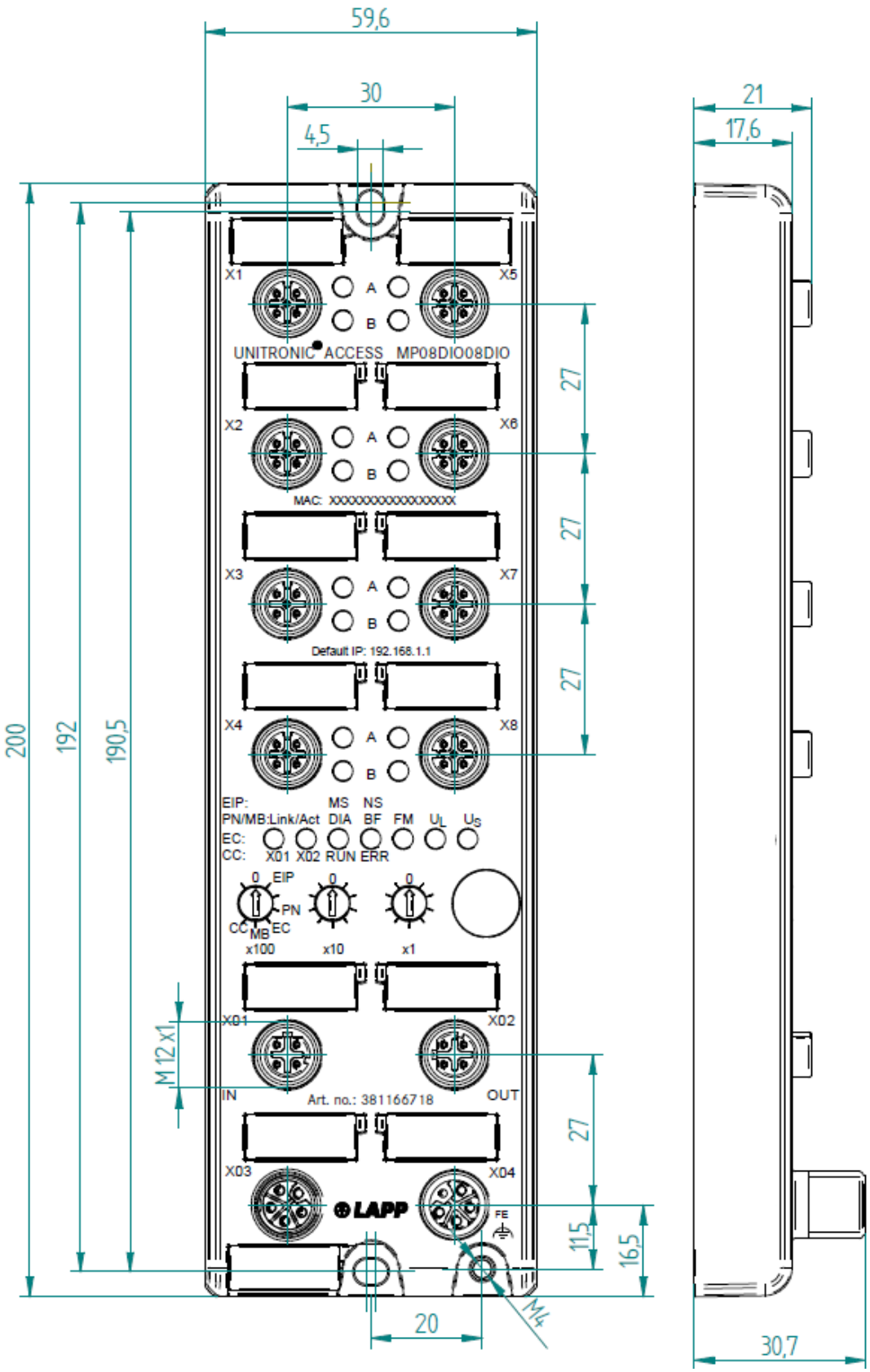
Digital Input Channels

Number of Digital Input Channels	up to 16
Connection	M12, 5-poles, A-coded
Number of Ports	8x, X1 to X8
Channel Type	Type 3 acc. to IEC 61131-2
Input Wiring	2-, 3-, 4-wire
Nominal Voltage	24 V DC via US (module power supply)
Nominal Current	typ. 5 mA
Sensor Current Supply	max. 4 A per port via Pin 1L+
Sensor Type	PNP
Input Voltage Range "0" signal	-3 V DC ...+5 V DC
Input Voltage Range "1" signal	11 V DC ... 30 V DC
Protective Circuit: Electronically	Overload protection, short-circuit protection
Status Indicator (Inputs)	LED white or yellow per channel
Diagnostic Indicator	LED red per port

Digital Output Channels

Number of Digital Output Channels	up to 16
Connection	M12, 5-poles, A-coded
Number of Ports	8x, X1 to X8
Channel Type	p-switching
Output Wiring	2-wire
Nominal Voltage	24 V DC via US
Output Current per Channel	max. 2 A
Output Current per Module	max. 16 A (for UL compliance: max 9A)
Galvanically Isolated	No
Protective Circuit: Electronically	Overload protection, short-circuit protection
Overload Behavior	Auto off and on switching / Manual restart
Status Indicator (Outputs)	LED white or yellow per channel
Diagnostic Indicator	LED red per channel

Technical drawing



Standards and approvals

EMC	EN IEC 61000-6-2: 2019 EN IEC 61000-6-4: 2019 IEC 61131-2: 2017
Approvals	CE UL (E331560) PNO ODVA ETG

Application range

Automation, industrial machinery and plant engineering

Note

Do not connect / disconnect system power supply under voltage!

Photographs are not true to scale and do not represent detailed images of the respective products.