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GNSS receiver and NTP (Network Time Protocol) for Ethernet networks, receives time, date, and location via GPS, GLONASS, or Galileo, web-based management, supply via PoE (af) or 24 V DC, integrated antenna, IP68 housing

Your advantages

- High availability thanks to a range of different satellite systems
- Automatic switching between GPS, Galileo, and GLONASS
- Robust IP68 housing with integrated antenna for easy installation outside the control cabinet
- Fast, inexpensive connection with just one Power over Ethernet cable
- Precise position determination via web-based management, SNMP, NMEA, or JSON streaming



Key Commercial Data

Packing unit	1 pc
GTIN	4 063151 006143
GTIN	4063151006143
Custom tariff number	85176200
Country of origin	Germany

Technical data

Dimensions

Width	62.8 mm
Height	36.5 mm
Depth	113.2 mm
Note on dimensions	Outside dimensions



Technical data

Ambient conditions

Ambient temperature (operation)	-40 °C 70 °C
Ambient temperature (storage/transport)	-40 °C 85 °C
Permissible humidity (operation)	10 % 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % 95 % (non-condensing)
Degree of protection	IP68 (Manufacturers declaration, not evaluated by UL)
	UL/CSA: Enclosure Type Rating 1 (indoor use)

Wireless interface

Designation	GNSS (GPS / Galileo / GLONASS)
Antenna connection method	(Internal)
Frequency	1575.42 MHz (GPS, L1C/A)
	1602 MHz +k * 562,5 kHz (GLONASS, L10F)
	1575.42 MHz (Galileo, E1-B/C)
Accuracy class	CEP ₅₀ = 5 m (Outdoor assembly)

Functions

Configuration	Web-based management
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Ethernet interface

Interface	Ethernet (RJ45)
Number of interfaces	1
Connection method	RJ45
Note on the connection method	Auto negotiation and autocrossing
Transmission speed	10/100/1000 Mbps
Transmission physics	Copper
Transmission length	100 m (per segment)
Protocols supported	SNTP
	NTP (v1, v2, v3, v4, without authentication)
	NMEA 0183 (via TCP)
	НТТР
	HTTPS
	SNMP
	SSH
	DHCP
	VLAN
	Telnet

Power supply for module electronics

Connection technology	COMBICON



Technical data

Power supply for module electronics

Connection method	Push-in spring connection
Designation	1966101 FMC 1,5/ 3-STF-3,5
Number of positions	2
Cross section range AWG	24 16 (Use copper wires rated 75° C (UL))
Note on the connection method	Recommended conductor cross section: 0.75 mm²
	Recommended ferrule: connection length 10 mm
	Recommended crimping pliers: trapezoidal or square
Supply voltage	24 V DC (SELV)
Supply voltage range	10 V DC 30 V DC (SELV)
	Power over Ethernet (PoE IEEE 802.3af or higher)
Current consumption	≤ 104 mA (24 V)
	max. 175 mA (UL, 10 V)
	max. 60 mA (PoE)
Power consumption	≤ 2.5 W

Connection data

Designation	1966101 FMC 1,5/ 3-STF-3,5
Connection method	Push-in spring connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	1.5 mm²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	1.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	16
Conductor cross section, flexible, with ferrule, with plastic sleeve	0.25 mm² 0.75 mm²
Conductor cross section flexible, with ferrule without plastic sleeve	0.25 mm ² 1.5 mm ²
Stripping length	10 mm

General

Net weight	349.5 g
Operating mode	NTP server (NTPv4) stratum 1
MTBF	60 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)
	168 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	316 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
Mounting type	Outdoors in the open
Assembly instructions	Outside of control cabinets or other metal housings
Accuracy realtime clock	<15 seconds/month in offline mode (no GNSS reception or Internet connection, no temperature fluctuations)



Technical data

General

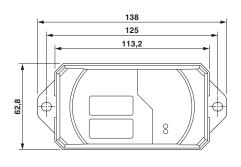
	<60 seconds/month in offline mode (no GNSS reception or Internet connection, with temperature fluctuations)
Response time	\leq 2 ms (NTP, dependent on Ethernet network and available network capacity)
	1 s (Polling rate of NMEA position data via TCP)
Switch-on time	≤ 100 s (Time until sat fix (cold restart, incl. device start))
	~ 40 s (Device start)

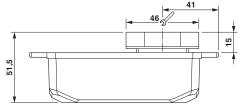
Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

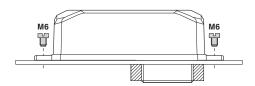
Drawings

Dimensional drawing





Schematic diagram



Mounting on the control cabinet



Dimensional drawing

Schematic diagram

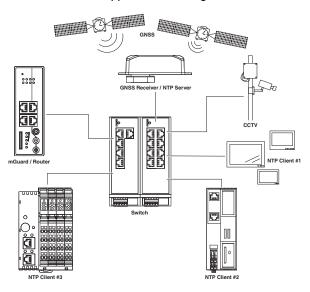
34,5

2

View from below

Drilling diagram

Application drawing



Classifications

eCl@ss

eCl@ss 10.0.1	19179290
eCl@ss 11.0	19179090
eCl@ss 9.0	19179290

Approvals

Approvals



Approvals			
Approvals			
EAC / cULus Listed / cULus Lis	sted / EAC		
Ex Approvals			
Approval details			
EAC	EAC		TR_TS_D_01843-19
cULus Listed	C (UL) US	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cULus Listed	C UL US	http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
EAC	EAC		TR_TS_D_01843-19

Accessories

Accessories

Adapter

Adapter - FL M32 ADAPTER - 2702544



Accessories for FL-WLAN 1100 series: Optional cable feed-through for sealing (IP67) the FL-WLAN 110x connection (IP20), if the device is not directly integrated onto the closed housing. Not needed when mounting on a control cabinet, etc.

Data plug



Accessories

RJ45 connector - CUC-IND-C1ZNI-S/R4IE8 - 1421607



RJ45 connector, degree of protection: IP20, number of positions: 8, 1 Gbps, CAT5 (IEC 11801:2002), material: Zinc diecast, connection method: IDC fast connection, connection cross section: AWG 26- 24, cable outlet: straight, color: green, Ethernet

Injector

Injector - INJ 1000 - 2703005



PoE injector, 30 W, two RJ45 jacks, 10/100/1000 Mbps, DIN rail mounting, IP20

Injector - INJ 2103-T - 1004065



PoE injector, 30 W, RJ45 jack on Push-in terminal blocks, 10/100/1000 Mbps, DIN rail mounting, IP20, potential separation, shield contacting with strain relief, shield current monitoring, surge protection

Patch cable

Patch cable - FL CAT5 PATCH 1,5 - 2832221



Patch cable, CAT5, assembled, 1.5 m

PCB plug



Accessories

Printed-circuit board connector - FMC 1,5/ 3-STF-3,5 - 1966101



PCB connector, nominal cross section: 1.5 mm², color: green, nominal current: 8 A, rated voltage (III/2): 160 V, contact surface: Tin, type of contact: Female connector, number of potentials: 3, Number of rows: 1, Number of positions per row: 3, number of connections: 3, product range: FMC 1,5/..-STF, pitch: 3.5 mm, connection method: Push-in spring connection, conductor/PCB connection direction: 0 °, plug-in system: MINI COMBICON, Locking: Screw locking, mounting: Screw flange, type of packaging: packed in cardboard

Switch

Industrial Ethernet Switch - FL SWITCH 1001T-4POE-GT - 1026937



PoE+ Ethernet switch conforms to IEEE 802.3at. Includes four 10/100/1000 Mbps PoE+ ports, one standard 10/100/1000 Mbps RJ45 port, a total PoE system budget of 120 W, and jumbo frames up to 10240 bytes.

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