SIEMENS

Data sheet

6ES7141-6BH00-0BB0



SIMATIC ET 200eco PN, DI 16x 24 V DC, M12-L, 8x M12, double assignment, input type 3 (IEC 61131), sink input (PNP, sinking input), input delay 0.05..20 ms, channel diagnostics for: wire break at input, encoder power supply short-circuit, 0.25 ms isochronous mode, prioritized startup, MSI, MRP, S2 redundancy, I&M0...3, multi-fieldbus, PN IO, Ethernet IP, Modbus TCP, degree of protection IP67 / IP69K

HVM Inclional status FS01 Firmware version V5.1.x FV update possible Yes Vendor Identification (VendorID) O02AH Device Identifier (DeviceID) O306H Manufacturer ID according to ODVA (VendorID) Oekel ID according to ODVA (Product code) Product function I slad data I spachronous mode Prioritized startup Yes Engineering with STEP 7 TIA Potat configurable/integrated from version PROFINET from GSD version/GSD revision PMIT Fledbus Configuration Tool (MFCT) Operating mode DI Counter MISI Yes Supply voltage power supply according to NEC Class 2 required Load voltage 1L+ Rated value (DC) Permissible range, upper limit (DC) Permissible range (upper limit (DC) Permissible range (u	General information	
PW update possible Vendor identification (VendorID) O02AH Device identified (DeviceID) Manufacturer ID according to ODVA (VendorID) O483H Device ID according to ODVA (Product code) Product function IMM data Isochronus mode Prioritized startup Performed startup STEP 7 TIA Potal configurable/integrated from version PROFINET from GSD version/GSD revision PMSI SUPPLY voitage Occurrent MSI Ves Supply voitage Dever supply according to NEC Class 2 required Load voitage 11+ Rated value (DC) Permissible range, lower limit (DC) Permissible range (upper limit (DC) Permissib	HW functional status	FS01
Vendor identification (VendorID)	Firmware version	V5.1.x
Device identifier (DeviceID) 0306H Manufacturer ID according to ODVA (VendorID) 04E3H Device ID according to ODVA (Product code) 0FA5H Product function • I&M data • Isochronous mode • Prioritized startup Yes Engineering with • STEP 7 TIA Portal configurable/integrated from version • PROFINET from SSD version/GSD revision • Multi Fieldbus Configuration Tool (MFCT) from V1.3 SP1 Operating mode • DI • Counter • NSI Supply voltage power supply according to NEC Class 2 required Load voltage 1L+ • Rated value (DC) • permissible range, lower limit (DC) • permissible range, lower limit (DC) • Reverse polarity protection Current consumption (rated value) from Ioad voltage 1L+, max. 12 A; Maximum value Finom load voltage 2L+, max. Encoder supply Number of outputs 24 V es; Group-by-group for 2 channels, electronic • Number of outputs 24 V es; Group-by-group for 2 channels, electronic • Output current, max. Power loss, typ.	FW update possible	Yes
Manufacturer ID according to ODVA (VendorID) Device ID according to ODVA (Product code) Product function • I&M data • Isochronous mode • Prioritized startup Engineering with • STEP 7 TIA Portal configurable/integrated from version • PROFINET from GSD version/GSD revision • PROFINET from GSD version/GSD revision • PROFINET from GSD version/GSD revision • Multi Fieldbus Configuration Tool (MFCT) Operating mode • DI • Counter • No • NoIS Supply voltage power supply according to NEC class 2 required Load voltage 11+ • Rated value (DC) • permissible range, lower limit (DC) • permissible range, upper limit (DC) • Reverse polarity protection • Reverse polarity protection from load voltage 2L+, max. Encoder supply • Short-circuit protection • Output current, max. Power loss, typ. 8.1 W	Vendor identification (VendorID)	002AH
Device ID according to ODVA (Product code) Product function I &M data Isochronous mode Prioritized startup Yes Prioritized startup Yes Engineering with STEP 7 TIA Portal configurable/integrated from version PROFINET from GSD version/GSD revision With Fieldbus Configuration Tool (MFCT) Gerating mode I D Counter MSI Supply voltage power supply according to NEC Class 2 required No Load voltage 1L+ Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Reverse polarity protection Promisory for Maximum value Current consumption (rated value) From load voltage 1L+ (unswitched voltage) From load voltage 2L+, max. Prower loas, typ. Power loss, typ. Power loss, typ. 8.1 W	Device identifier (DeviceID)	0306H
Product function • I&M data • Isochronous mode • Prioritized startup Profitized startup • STEP 7 TIA Portal configurable/integrated from version • PROFINET from GSD version/GSD revision • PROFINET from GSD version/GSD revision • Multi Fieldbus Configuration Tool (MFCT) Operating mode • DI • Counter • No • MSI Pres Supply voltage power supply according to NEC Class 2 required No Load voltage 1L+ • Rated value (DC) • permissible range, lower limit (DC) • Permissible range, lower limit (DC) • Reverse polarity protection Press: Against destruction; encoder power supply outputs applied with reversed polarity Input current Current consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. 12 A; Maximum value Frencoder supply • Short-circuit protection • Short-circuit protection • Short-circuit protection • Output current, max. Power loss, typ. 8.1 W	Manufacturer ID according to ODVA (VendorID)	04E3H
IstM data Ischronous mode Prioritized startup Engineering with IstP 7 TIA Portal configurable/integrated from version PROFINET from GSD version/GSD revision Multi Fieldbus Configuration Tool (MFCT) From V1.3 SP1 Operating mode ID Counter Mo MSI Pes Supply voltage power supply according to NEC Class 2 required No Load voltage 1L+ Rated value (DC) permissible range, upper limit (DC) Reverse polarity protection Reverse polarity protection From Ioad voltage 2L+, max. It A, Maximum value from load voltage 2L+, max. Encoder supply Number of outputs 8 24 V encoder supply Number of outputs 8 Power loss, typ. 8.1 W	Device ID according to ODVA (Product code)	0FA5H
Isochronous mode Prioritized startup Engineering with STEP 7 TIA Portal configurable/integrated from version PROFINET from GSD version/GSD revision With Fieldbus Configuration Tool (MFCT) Operating mode DI Counter No MSI Supply voltage power supply according to NEC Class 2 required No Load voltage 1L+ Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit	Product function	
Prioritized startup Prioritized startup Engineering with STEP 7 TIA Portal configurable/integrated from version PROFINET from GSD version/GSD revision Multi Fieldbus Configuration Tool (MFCT) Operating mode DI Counter MSI Power loss Parisistic drange, lower limit (DC) Permissible range, upper limit (DC) Permissi	● I&M data	Yes; I&M0 to I&M3
Engineering with STEP 7 TIA Portal configurable/integrated from version PROFINET from GSD version/GSD revision Multi Fieldbus Configuration Tool (MFCT) Operating mode DI Yes Counter No MSI Yes Supply vottage power supply according to NEC Class 2 required Load voltage 1L+ Rated value (DC) Permissible range, lower limit (DC) Permissible range, upper limit (DC) Permissible range, upper limit (DC) Permissible range (upper limit (Isochronous mode 	Yes
STEP 7 V17 or higher with HSP 0363 PROFINET from GSD version/GSD revision Multi Fieldbus Configuration Tool (MFCT) Operating mode DI Counter No MSI Supply voltage power supply according to NEC Class 2 required Rated value (DC) permissible range, lower limit (DC) Permissible range, upper limit (DC) Reverse polarity protection Reverse polarity protection DI Permissible range, upper limit (DC) Reverse polarity protection DI Permissible range upper limit (DC) Reverse polarity protection DI Permissible range upper limit (DC) Reverse polarity protection DI Permissible range upper limit (DC) Reverse polarity protection DI Permit Current Current consumption (rated value) Prom load voltage 1L+ (unswitched voltage) From load voltage 1L+ (unswitched voltage) Reverse polarity Number of outputs Selectronic Output current, max. Power loss, typ. Bank V STEP 7 V17 or higher with HSP 0363 GSDML V2.3.x from V1.3 SP1 SCBML V2.3.x from V1.3 SP1 Power loss, typ. STEP 7 V17 or higher with HSP 0363 STEP 7 V17 or higher with HSP 0365 SpDML V2.3.x from V1.3 SP1 Poser loss, typ.	Prioritized startup	Yes
PROFINET from GSD version/GSD revision Multi Fieldbus Configuration Tool (MFCT) Operating mode OI OCUMENT OCUMENT ON MSI Yes Counter OWSI Power supply according to NEC Class 2 required No Load voltage 11+ Rated value (DC) Opermissible range, lower limit (DC) Opermissible range, upper limit (DC) Reverse polarity protection Input current Current consumption (rated value) from load voltage 11+ (unswitched voltage) from load voltage 21+, max. Encoder supply Number of outputs 8 24 V encoder supply Number of outputs 8 24 V encoder supply Number of outputs Short-circuit protection Yes; Group-by-group for 2 channels, electronic Output current, max. Power loss Power loss, typ. 8.1 W	Engineering with	
Mutit Fieldbus Configuration Tool (MFCT) Operating mode DI Counter No Supply voltage power supply according to NEC Class 2 required Load voltage 1L+ Rated value (DC) permissible range, lower limit (DC) Reverse polarity protection Reverse polarity protection Pom load voltage 1L+ Current consumption (rated value) From load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. 12 A; Maximum value Encoder supply Number of outputs Short-circuit protection Yes; Group-by-group for 2 channels, electronic Output current, max. Power loss Power loss, typ. 8.1 W	 STEP 7 TIA Portal configurable/integrated from version 	STEP 7 V17 or higher with HSP 0363
Operating mode • DI • Counter • No • MSI Yes Supply voltage power supply according to NEC Class 2 required Load voltage 1L+ • Rated value (DC) • permissible range, lower limit (DC) • permissible range, upper limit (DC) • Reverse polarity protection • Reverse polarity protection Input current Current consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. Pencoder supply Number of outputs 8 24 V encoder supply • Short-circuit protection Yes; Group-by-group for 2 channels, electronic • Output current, max. Power loss Power loss, typ. 8 11 W	 PROFINET from GSD version/GSD revision 	GSDML V2.3.x
ODI Counter No MSI Yes Supply voltage power supply according to NEC Class 2 required No Load voltage 1L+ Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Pewerse polarity protection Reverse polarity protection Promotoda voltage 1L+ (unswitched voltage) Current consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. Encoder supply Number of outputs 8 24 V es; Group-by-group for 2 channels, electronic Output current, max. Power loss, typ. 8.1 W	 Multi Fieldbus Configuration Tool (MFCT) 	from V1.3 SP1
Counter MSI Yes Supply voltage power supply according to NEC Class 2 required No Load voltage 1L+ Rated value (DC) permissible range, lower limit (DC) Reverse polarity protection Reverse polarity protection Pomer load voltage 1L+ Supply No Pomer loss Power loss, typ. No No Load voltage 1L+ Rated value (DC) 24 V 20.4 V 29.8 V Yes; Against destruction; encoder power supply outputs applied with reversed polarity Pomer supply outputs applied with reversed polarity No Reverse polarity protection 90 mA; without load from load voltage 1L+ (unswitched voltage) 12 A; Maximum value Encoder supply Supp	Operating mode	
Supply voltage power supply according to NEC Class 2 required No Load voltage 1L+ Rated value (DC) 24 V permissible range, lower limit (DC) 28.8 V Reverse polarity protection Yes; Against destruction; encoder power supply outputs applied with reversed polarity Input current Current consumption (rated value) 90 mA; without load from load voltage 1L+ (unswitched voltage) 12 A; Maximum value from load voltage 2L+, max. 12 A; Maximum value Encoder supply Number of outputs 8 24 V encoder supply Short-circuit protection Yes; Group-by-group for 2 channels, electronic Output current, max. 100 mA; per output Power loss Power loss, typ. 8.1 W	• DI	Yes
power supply according to NEC Class 2 required Load voltage 1L+ Rated value (DC) permissible range, lower limit (DC) required Reverse polarity protection Prom load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. Prometer supply Number of outputs 8 24 V encoder supply Short-circuit protection Serverse power loss, typ. Short-circuit protection Power loss Power loss, typ. No No 24 V 24 V 25 V 26 V 28.8 V 26 V 28.8 V 28.8 V 29.9 MA; without load festruction; encoder power supply outputs applied with reversed polarity Power loss, typ. No No 24 V 25 V 26 V 27 Servine Av 27 V 28.8 V 28 V 28 V 29 MA; without load 12 A; Maximum value 12 A; Maximum value 12 A; Maximum value 13 A; Maximum value 14 V 15 Group-by-group for 2 channels, electronic 100 mA; per output 100 mA; per output	Counter	No
power supply according to NEC Class 2 required Load voltage 1L+ Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection responsible range, upper limit (DC) Reverse polarity protection yes; Against destruction; encoder power supply outputs applied with reversed polarity Input current Current consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. 12 A; Maximum value Encoder supply Number of outputs 8 24 V encoder supply Short-circuit protection Short-circuit protection Output current, max. Power loss Power loss, typ. 8.1 W	• MSI	Yes
Load voltage 1L+ Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Yes; Against destruction; encoder power supply outputs applied with reversed polarity Input current Current consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. 12 A; Maximum value Encoder supply Number of outputs 24 V Power loss Power loss, typ. 24 V 24 V 24 V 25 V 26 V 28.8 V 28.8 V 28 V 28.8 V 28 V 28 (Against destruction; encoder power supply outputs applied with reversed polarity Yes; Against destruction; encoder power supply outputs applied with reversed polarity Yes; Against destruction; encoder power supply outputs labelied with reversed polarity Yes; Against destruction; encoder power supply outputs labelied with reversed polarity Yes; Against destruction; encoder power supply outputs labelied with reversed polarity Yes; Against destruction; encoder power supply outputs applied with reversed polarity Yes; Group-by-group for 2 channels, electronic 100 mA; per output Power loss Power loss, typ. 8.1 W	Supply voltage	
 Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Pes; Against destruction; encoder power supply outputs applied with reversed polarity Input current Current consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. 12 A; Maximum value from load voltage 2L+, max. 12 A; Maximum value Encoder supply Number of outputs Short-circuit protection Output current, max. Power loss Power loss, typ. 8.1 W 	power supply according to NEC Class 2 required	No
 permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Yes; Against destruction; encoder power supply outputs applied with reversed polarity Input current Current consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. 12 A; Maximum value Encoder supply Number of outputs Short-circuit protection Output current, max. Power loss Power loss, typ. 8.1 W 	Load voltage 1L+	
 permissible range, upper limit (DC) Reverse polarity protection Yes; Against destruction; encoder power supply outputs applied with reversed polarity Input current Current consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. 12 A; Maximum value Encoder supply Number of outputs 8 24 V encoder supply Short-circuit protection Output current, max. Power loss Power loss, typ. 8.1 W 	 Rated value (DC) 	24 V
Pewer loss Per Reverse polarity protection Yes; Against destruction; encoder power supply outputs applied with reversed polarity Yes; Against destruction; encoder power supply outputs applied with reversed polarity Per Septiment Consumption (rated value) 90 mA; without load from load voltage 1L+ (unswitched voltage) 12 A; Maximum value Fincoder supply Number of outputs 8 24 V encoder supply Short-circuit protection Output current, max. Yes; Group-by-group for 2 channels, electronic Output current, max. Power loss Power loss, typ. 8.1 W	 permissible range, lower limit (DC) 	20.4 V
Input current Current consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. 12 A; Maximum value Encoder supply Number of outputs 24 V encoder supply Short-circuit protection Output current, max. Power loss Power loss, typ. Power loss, typ. 90 mA; without load 12 A; Maximum value 12 A; Maximum value 8 8 8 6 7 8 8 8 8 8 9 8 8 8 8 8 8 8	 permissible range, upper limit (DC) 	28.8 V
Current consumption (rated value) from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. 12 A; Maximum value Encoder supply Number of outputs 24 V encoder supply Short-circuit protection Output current, max. Power loss Power loss, typ. 90 mA; without load 12 A; Maximum value 8 8 24 S; Maximum value 8 8 10 Maximum value 10 mA; per output protection 100 mA; per output 8 8 8 8 8 8 8 8 8 8 8 8 8	Reverse polarity protection	
from load voltage 1L+ (unswitched voltage) from load voltage 2L+, max. 12 A; Maximum value Encoder supply Number of outputs 8 24 V encoder supply • Short-circuit protection • Output current, max. Power loss Power loss, typ. 12 A; Maximum value 12 A; Maximum value 12 A; Maximum value 8 12 A; Maximum value 8 8 8 8 8 8 9 8 8 8 8 8 8	Input current	
from load voltage 2L+, max. Encoder supply Number of outputs 8 24 V encoder supply • Short-circuit protection • Output current, max. Power loss Power loss, typ. 12 A; Maximum value 8 12 A; Maximum value 8 10 Maximum value 8 8 10 Maximum value 8 8 8 8 10 Maximum value 8 8 8 8 8 8 8 8 8 8 8 9 9	Current consumption (rated value)	90 mA; without load
Encoder supply Number of outputs 8 24 V encoder supply • Short-circuit protection • Output current, max. Power loss Power loss, typ. 8 8 Ves; Group-by-group for 2 channels, electronic 100 mA; per output 8.1 W	from load voltage 1L+ (unswitched voltage)	12 A; Maximum value
Number of outputs 24 V encoder supply Short-circuit protection Output current, max. Power loss Power loss, typ. 8 Yes; Group-by-group for 2 channels, electronic 100 mA; per output 8 8 8 8 8 8 8 8 8 8 8 8 8	from load voltage 2L+, max.	12 A; Maximum value
24 V encoder supply Short-circuit protection Output current, max. Power loss Power loss, typ. Yes; Group-by-group for 2 channels, electronic 100 mA; per output 8.1 W	Encoder supply	
 Short-circuit protection Output current, max. Power loss Power loss, typ. 8.1 W 	Number of outputs	8
Output current, max. 100 mA; per output Power loss Power loss, typ. 8.1 W	24 V encoder supply	
Power loss Power loss, typ. 8.1 W	Short-circuit protection	Yes; Group-by-group for 2 channels, electronic
Power loss, typ. 8.1 W	 Output current, max. 	100 mA; per output
- 27	Power loss	
Address area	Power loss, typ.	8.1 W
	Address area	

Address space per module	
Inputs	2 byte; + 2 bytes for QI information
Inputs Hardware configuration	2 byte, 1 2 bytes for Qi illioriffation
Submodules	
Number of configurable submodules, max.	2
Digital inputs	4
Number of digital inputs	16
Digital inputs, parameterizable	Yes
Source/sink input	P-reading
Input characteristic curve in accordance with IEC 61131, type 3	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 60 °C, max.	16
Input voltage	
Rated value (DC)	24 V
• for signal "0"	-30 to +5 V
• for signal "1"	+11 to +30V
Input current	
• for signal "1", typ.	2.4 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes; 0.05 / 0.1 / 0.4 / 0.8 / 1.6 / 3.2 / 12.8 / 20 ms
Cable length	
• unshielded, max.	30 m
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA
Interfaces	
Number of PROFINET interfaces	1
1. Interface	
1. Interface Interface type	PROFINET with 100 Mbit/s full duplex (100BASE-TX)
	PROFINET with 100 Mbit/s full duplex (100BASE-TX)
Interface type	PROFINET with 100 Mbit/s full duplex (100BASE-TX) Yes; 2x M12, 4-pin, D-coded
Interface type Interface types	
Interface type Interface types • M12 port • Number of ports • integrated switch	Yes; 2x M12, 4-pin, D-coded
Interface type Interface types • M12 port • Number of ports • integrated switch Protocols	Yes; 2x M12, 4-pin, D-coded 2 Yes
Interface type Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device	Yes; 2x M12, 4-pin, D-coded 2 Yes
Interface type Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication	Yes; 2x M12, 4-pin, D-coded 2 Yes
Interface type Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication Interface types	Yes; 2x M12, 4-pin, D-coded 2 Yes
Interface types Interface types M12 port Number of ports integrated switch Protocols PROFINET IO Device Open IE communication Interface types M12 port	Yes; 2x M12, 4-pin, D-coded 2 Yes Yes Yes
Interface type Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication Interface types M12 port • Autonegotiation	Yes; 2x M12, 4-pin, D-coded 2 Yes Yes Yes Yes
Interface types Interface types M12 port Number of ports integrated switch Protocols PROFINET IO Device Open IE communication Interface types M12 port Autonegotiation Autocrossing	Yes; 2x M12, 4-pin, D-coded 2 Yes Yes Yes Yes Yes
Interface type Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication Interface types M12 port • Autonegotiation • Autocrossing • Transmission rate, max.	Yes; 2x M12, 4-pin, D-coded 2 Yes Yes Yes Yes
Interface type Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication Interface types M12 port • Autonegotiation • Autocrossing • Transmission rate, max. Protocols	Yes; 2x M12, 4-pin, D-coded 2 Yes Yes Yes Yes Yes 100 Mbit/s
Interface type Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication Interface types M12 port • Autonegotiation • Autocrossing • Transmission rate, max. Protocols Supports protocol for PROFINET IO	Yes; 2x M12, 4-pin, D-coded 2 Yes Yes Yes Yes Yes Yes Yes Ye
Interface type Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication Interface types M12 port • Autonegotiation • Autocrossing • Transmission rate, max. Protocols Supports protocol for PROFINET IO PROFIsafe	Yes; 2x M12, 4-pin, D-coded 2 Yes Yes Yes Yes Yes Yes Yes No
Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication Interface types M12 port • Autonegotiation • Autocrossing • Transmission rate, max. Protocols Supports protocol for PROFINET IO PROFIsafe EtherNet/IP	Yes; 2x M12, 4-pin, D-coded 2 Yes Yes Yes Yes Yes Yes No Yes
Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication Interface types M12 port • Autonegotiation • Autocrossing • Transmission rate, max. Protocols Supports protocol for PROFINET IO PROFIsafe EtherNet/IP Modbus TCP	Yes; 2x M12, 4-pin, D-coded 2 Yes Yes Yes Yes Yes Yes Yes No
Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication Interface types M12 port • Autonegotiation • Autocrossing • Transmission rate, max. Protocols Supports protocol for PROFINET IO PROFISafe EtherNet/IP Modbus TCP PROFINET IO Device	Yes; 2x M12, 4-pin, D-coded 2 Yes Yes Yes Yes Yes Yes No Yes
Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication Interface types M12 port • Autonegotiation • Autocrossing • Transmission rate, max. Protocols Supports protocol for PROFINET IO PROFIsafe EtherNet/IP Modbus TCP PROFINET IO Device Services	Yes; 2x M12, 4-pin, D-coded 2 Yes
Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication Interface types M12 port • Autonegotiation • Autocrossing • Transmission rate, max. Protocols Supports protocol for PROFINET IO PROFIsafe EtherNet/IP Modbus TCP PROFINET IO Device Services — IRT	Yes; 2x M12, 4-pin, D-coded 2 Yes Yes Yes Yes Yes Yes Yes Ye
Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication Interface types M12 port • Autonegotiation • Autocrossing • Transmission rate, max. Protocols Supports protocol for PROFINET IO PROFIsafe EtherNet/IP Modbus TCP PROFINET IO Device Services — IRT — Prioritized startup	Yes; 2x M12, 4-pin, D-coded 2 Yes
Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication Interface types M12 port • Autonegotiation • Autocrossing • Transmission rate, max. Protocols Supports protocol for PROFINET IO PROFIsafe EtherNet/IP Modbus TCP PROFINET IO Device Services — IRT — Prioritized startup Redundancy mode	Yes; 2x M12, 4-pin, D-coded 2 Yes Yes Yes Yes Yes Yes Yes Ye
Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication Interface types M12 port • Autonegotiation • Autocrossing • Transmission rate, max. Protocols Supports protocol for PROFINET IO PROFIsafe EtherNet/IP Modbus TCP PROFINET IO Device Services — IRT — Prioritized startup Redundancy mode • PROFINET system redundancy (S2)	Yes; 2x M12, 4-pin, D-coded 2 Yes Yes Yes Yes Yes Yes Yes Ye
Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication Interface types M12 port • Autonegotiation • Autocrossing • Transmission rate, max. Protocols Supports protocol for PROFINET IO PROFIsafe EtherNet/IP Modbus TCP PROFINET IO Device Services — IRT — Prioritized startup Redundancy mode • PROFINET system redundancy (S2) — on S7-1500R/H	Yes; 2x M12, 4-pin, D-coded 2 Yes
Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication Interface types M12 port • Autonegotiation • Autocrossing • Transmission rate, max. Protocols Supports protocol for PROFINET IO PROFIsafe EtherNet/IP Modbus TCP PROFINET IO Device Services — IRT — Prioritized startup Redundancy mode • PROFINET system redundancy (S2) — on S7-1500R/H — on S7-400H	Yes; 2x M12, 4-pin, D-coded 2 Yes
Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication Interface types M12 port • Autonegotiation • Autocrossing • Transmission rate, max. Protocols Supports protocol for PROFINET IO PROFIsafe EtherNet/IP Modbus TCP PROFINET IO Device Services — IRT — Prioritized startup Redundancy mode • PROFINET system redundancy (S2) — on S7-1500R/H — on S7-400H • PROFINET system redundancy (R1)	Yes; 2x M12, 4-pin, D-coded 2 Yes Yes Yes Yes Yes Yes No Yes Yes Yes Yes Yes Yes No Yes Yes Yes Yes Yes Yes Yes
Interface types • M12 port • Number of ports • integrated switch Protocols • PROFINET IO Device • Open IE communication Interface types M12 port • Autonegotiation • Autocrossing • Transmission rate, max. Protocols Supports protocol for PROFINET IO PROFIsafe EtherNet/IP Modbus TCP PROFINET IO Device Services — IRT — Prioritized startup Redundancy mode • PROFINET system redundancy (S2) — on S7-1500R/H — on S7-400H	Yes; 2x M12, 4-pin, D-coded 2 Yes

— MRP	Yes
EtherNet/IP	165
Services	
	Yes
— CIP Implicit Messaging — CIP Explicit Messaging	Yes
— CIP Explicit Messaging — CIP Safety	No
Shared device	
	Yes; 2x EtherNet/IP Scanner
Number of scanners with shared device, max.	2
Updating times	2
— Requested Packet Interval (RPI)	2 ms
Redundancy mode	N.
— DLR (Device Level Ring)	No
Address area	
— Address space per module, max.	20 byte
— LargeForwardOpen (Class3)	No
Modbus TCP	
Services	
— read coils (code=1)	Yes
— read discrete inputs (code=2)	Yes
— Read Holding Registers (Code=3)	Yes
— write single coil (code=5)	Yes
— write multiple coils (code=15)	Yes
— Write Multiple Registers (Code=16)	Yes
 Parameter change by master 	No
 Modbus TCP Security Protocol 	No
Address space per station	
 Address space per station, max. 	20 byte
 Access-consistent address space 	2 byte
Updating time	
— I/O request interval	2 ms
Connections	
— Number of connections per slave	12
Open IE communication	
• TCP/IP	Yes; (only EtherNet/IP or Modbus TCP)
• SNMP	Yes
• LLDP	Yes
• ARP	Yes
Isochronous mode	1.00
Equidistance	Yes
shortest clock pulse	250 μs
·	4 ms
max. cycle	
Jitter, max.	10 μs
Interrupts/diagnostics/status information	
Alarms	
Diagnostic alarm	Yes; Parameterizable
Maintenance interrupt	Yes; Parameterizable
Hardware interrupt	Yes; Parameterizable
Diagnoses	
 Diagnostic information readable 	Yes
 Monitoring the supply voltage 	Yes
— parameterizable	Yes
Wire-break	Yes; DI, input current < 0.3 mA, per channel
Short-circuit encoder supply	Yes; Per channel group
Diagnostics indication LED	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
MAINT LED	Yes; Yellow LED
• NS LED	Yes; green/red LED
• MS LED	Yes; green/red LED
• IO LED	Yes; red-green-yellow LED
Channel status display	Yes: green LED
- OTTALLION ON MICHIGA	· g. vv

 for channel diagnostics 	Yes; red LED
 Connection display LINK TX/RX 	Yes; green LED, only link
Potential separation	
between the load voltages	Yes
between Ethernet and electronics	Yes
Potential separation channels	
 between the channels 	No
 between the channels and the power supply of the electronics 	No
Isolation	
tested with	
• 24 V DC circuits	707 V DC (type test)
 Test voltage for interface, rms value [Vrms] 	1 500 V; According to IEEE 802.3
Degree and class of protection	
IP degree of protection	IP65/67/69K
Standards, approvals, certificates	
Suitable for safety-related tripping of standard modules	Yes; From FS01
Highest safety class achievable for safety-related tripping of stand	dard modules
 Performance level according to ISO 13849-1 	PL d
 Category according to ISO 13849-1 	Cat. 3
• SIL acc. to IEC 62061	SIL 2
 remark on safety-oriented shutdown 	https://support.industry.siemens.com/cs/de/en/view/39198632
Ambient conditions	
Ambient temperature during operation	
• min.	-40 °C
• max.	60 °C
Altitude during operation relating to sea level	
Ambient air temperature-barometric pressure-altitude	Up to max. 5 000 m, at installation height > 2 000 m additional restrictions
connection method	
Design of electrical connection	4/5-pin M12 circular connectors
Design of electrical connection for the inputs and outputs	M12, 5-pin, A-coded
Design of electrical connection for supply voltage	M12, 4-pin, L-coded
Dimensions	
Width	45 mm
Height	200 mm
Depth	48 mm
Weights	
Weight, approx.	780 g

last modified:

8/16/2023