



SIMATIC ET 200eco PN, DI 8x 24 V DC, M12-L, 8x M12, single and 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

| General information                                      |                                                                                       |
|----------------------------------------------------------|---------------------------------------------------------------------------------------|
| HW functional status                                     | FS05                                                                                  |
| Firmware version                                         | V5.1.x                                                                                |
| • FW update possible                                     | Yes                                                                                   |
| Vendor identification (VendorID)                         | 002AH                                                                                 |
| Device identifier (DeviceID)                             | 0306H                                                                                 |
| Manufacturer ID according to ODVA (VendorID)             | 04E3H                                                                                 |
| Device ID according to ODVA (Product code)               | 0FA4H                                                                                 |
| Product function                                         |                                                                                       |
| • I&M data                                               | Yes; I&M0 to I&M3                                                                     |
| • Isochronous mode                                       | Yes                                                                                   |
| • IRT                                                    | Yes                                                                                   |
| • Prioritized startup                                    | Yes                                                                                   |
| Engineering with                                         |                                                                                       |
| • STEP 7 TIA Portal configurable/integrated from version | STEP 7 V17 or higher with HSP 0363                                                    |
| • PROFINET from GSD version/GSD revision                 | GSDML V2.4.x                                                                          |
| • Multi Fieldbus Configuration Tool (MFCT)               | from V1.3 SP1                                                                         |
| Operating mode                                           |                                                                                       |
| • DI                                                     | Yes                                                                                   |
| • Counter                                                | No                                                                                    |
| • MSI                                                    | Yes                                                                                   |
| Supply voltage                                           |                                                                                       |
| power supply according to NEC Class 2 required           | No                                                                                    |
| Load voltage 1L+                                         |                                                                                       |
| • Rated value (DC)                                       | 24 V                                                                                  |
| • permissible range, lower limit (DC)                    | 20.4 V                                                                                |
| • permissible range, upper 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)                        | 85 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; per channel, electronic                                                          |
| • Output current, max.                                   | 100 mA; per output                                                                    |
| Power loss                                               |                                                                                       |

|                                                                 |                                                        |
|-----------------------------------------------------------------|--------------------------------------------------------|
| Power loss, typ.                                                | 7.6 W                                                  |
| <b>Address area</b>                                             |                                                        |
| Address space per module                                        |                                                        |
| • Inputs                                                        | 1 byte; + 1 byte for QI information                    |
| <b>Hardware configuration</b>                                   |                                                        |
| Submodules                                                      |                                                        |
| • Number of configurable submodules, max.                       | 2                                                      |
| <b>Digital inputs</b>                                           |                                                        |
| Number of digital inputs                                        | 8                                                      |
| Digital inputs, parameterizable                                 | Yes                                                    |
| Sourcing/sinking 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.                                             | 8                                                      |
| 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                                                   |
| <b>Encoder</b>                                                  |                                                        |
| Connectable encoders                                            |                                                        |
| • 2-wire sensor                                                 | Yes                                                    |
| — permissible quiescent current (2-wire sensor), max.           | 1.5 mA                                                 |
| <b>Interfaces</b>                                               |                                                        |
| Transmission procedure                                          | 100BASE-TX                                             |
| Number of PROFINET interfaces                                   | 1                                                      |
| <b>1. Interface</b>                                             |                                                        |
| Interface type                                                  | PROFINET with 100 Mbit/s full duplex (100BASE-TX)      |
| Interface types                                                 |                                                        |
| • M12 port                                                      | Yes; 2x M12, 4-pin, D-coded                            |
| • Number of ports                                               | 2                                                      |
| • integrated switch                                             | Yes                                                    |
| Protocols                                                       |                                                        |
| • PROFINET IO Device                                            | Yes                                                    |
| • Open IE communication                                         | Yes                                                    |
| PROFINET IO Device                                              |                                                        |
| Services                                                        |                                                        |
| — IRT                                                           | Yes; 250 µs to 4 ms in 125 µs frame                    |
| — Prioritized startup                                           | Yes                                                    |
| — Shared device                                                 | Yes                                                    |
| <b>Interface types</b>                                          |                                                        |
| M12 port                                                        |                                                        |
| • Autonegotiation                                               | Yes                                                    |
| • Autocrossing                                                  | Yes                                                    |
| • Transmission rate, max.                                       | 100 Mbit/s                                             |
| <b>Protocols</b>                                                |                                                        |
| Supports protocol for PROFINET IO                               | Yes                                                    |
| PROFIsafe                                                       | No                                                     |
| EtherNet/IP                                                     | Yes                                                    |
| Modbus TCP                                                      | Yes                                                    |
| Redundancy mode                                                 |                                                        |

|                                               |                                              |
|-----------------------------------------------|----------------------------------------------|
| • PROFINET system redundancy (S2)             | Yes                                          |
| — on S7-1500R/H                               | Yes                                          |
| — on S7-400H                                  | Yes                                          |
| • PROFINET system redundancy (R1)             | No                                           |
| • H-Sync forwarding                           | Yes                                          |
| Media redundancy                              |                                              |
| — MRP                                         | Yes                                          |
| — MRPD                                        | No                                           |
| EtherNet/IP                                   |                                              |
| Services                                      |                                              |
| — CIP Implicit Messaging                      | Yes                                          |
| — CIP Explicit Messaging                      | Yes                                          |
| — CIP Safety                                  | No                                           |
| — Shared device                               | Yes; 2x EtherNet/IP Scanner                  |
| — Number of scanners with shared device, max. | 2                                            |
| Updating times                                |                                              |
| — Requested Packet Interval (RPI)             | 2 ms                                         |
| Redundancy mode                               |                                              |
| — 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 device            | 12                                           |
| Open IE communication                         |                                              |
| • TCP/IP                                      | Yes; (only EtherNet/IP or Modbus TCP)        |
| • SNMP                                        | Yes                                          |
| • LLDP                                        | Yes                                          |
| • ARP                                         | Yes                                          |
| Isochronous mode                              |                                              |
| Equidistance                                  | Yes                                          |
| shortest clock pulse                          | 250 µs                                       |
| max. cycle                                    | 4 ms                                         |
| 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 LEDs                                                                                                            |         |                |
| • Channel status display                                                        | Yes; green LED                                                                                                                        |         |                |
| • 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 standard 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                                            | <a href="https://support.industry.siemens.com/cs/de/en/view/39198632">https://support.industry.siemens.com/cs/de/en/view/39198632</a> |         |                |
| Use in hazardous areas                                                          |                                                                                                                                       |         |                |
| • Explosion protection category for gas                                         | ATEX, UKEX, IECEx, CCCEX for Zone 2                                                                                                   |         |                |
| • Explosion protection category for dust                                        | ATEX, UKEX, IECEx, CCCEX for Zone 22                                                                                                  |         |                |
| Security                                                                        |                                                                                                                                       |         |                |
| signed firmware update                                                          | Yes                                                                                                                                   |         |                |
| safely removing data                                                            | Yes                                                                                                                                   |         |                |
| 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                                                                                                                                 |         |                |
| Classifications                                                                 |                                                                                                                                       |         |                |
|                                                                                 |                                                                                                                                       | Version | Classification |
|                                                                                 | eClass                                                                                                                                | 16      | 27-24-26-04    |
|                                                                                 | eClass                                                                                                                                | 14      | 27-24-26-04    |
|                                                                                 | eClass                                                                                                                                | 12      | 27-24-26-04    |

|        |     |             |
|--------|-----|-------------|
| eClass | 9.1 | 27-24-26-04 |
| eClass | 9   | 27-24-26-04 |
| eClass | 8   | 27-24-26-04 |
| eClass | 7.1 | 27-24-26-04 |
| eClass | 6   | 27-24-26-04 |
| ETIM   | 10  | EC001599    |
| ETIM   | 9   | EC001599    |
| ETIM   | 8   | EC001599    |
| ETIM   | 7   | EC001599    |
| IDEA   | 4   | 3566        |
| UNSPSC | 15  | 32-15-17-05 |

## Approvals / Certificates

### General Product Approval

[Miscellaneous](#)

[Manufacturer Declaration](#)



### General Product Approval

### For use in hazardous locations



[China RoHS](#)

[CCC-Ex](#)



[Miscellaneous](#)

### For use in hazardous locations

### Maritime application

[CCC-Ex](#)



[NK / Nippon Kaiji Kyokai](#)

### Maritime application

### other

### Food, Pharmaceutical, Medical

### Environment



[CCS \(China Classification Society\)](#)

[KR \(Korean Register of Shipping\)](#)



[Confirmation](#)



### Environment

### Industrial Communication



[PROFINET](#)

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