

SIMATIC DP, ET 200eco PN, F-DI 8x24V /F-DQ 3x24V 2A , M12
 PROFIsafe, up to PL E (ISO 13849), up to SIL 3 (IEC 61508),
 protection IP65/67



| General information | |
|---|-------------------|
| Firmware version | |
| <ul style="list-style-type: none"> FW update possible | Yes |
| Vendor identification (VendorID) | 02AH |
| Device identifier (DeviceID) | 0306H |
| Product function | |
| <ul style="list-style-type: none"> I&M data | Yes; I&M0 to I&M3 |
| Engineering with | |
| <ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated as of version | V15 with HSP 204 |
| Operating mode | |
| <ul style="list-style-type: none"> DI | Yes |
| <ul style="list-style-type: none"> DQ | Yes |
| Supply voltage | |
| Rated value (DC) | 24 V |
| Reverse polarity protection | Yes |
| Load voltage 1L+ | |
| <ul style="list-style-type: none"> Rated value (DC) | 24 V |

| | |
|---|--------------------------------------|
| • Reverse polarity protection | Yes |
| Load voltage 2L+ | |
| • Rated value (DC) | 24 V |
| • Reverse polarity protection | Yes |
| Input current | |
| Current consumption, typ. | 200 mA |
| from supply voltage 1L+, max. | 4 A |
| from load voltage 2L+, max. | 4 A |
| Encoder supply | |
| Number of outputs | 2 |
| 24 V encoder supply | |
| • Short-circuit protection | Yes; Electronic |
| • Output current, max. | 300 mA; per output |
| Power loss | |
| Power loss, typ. | 9 W |
| Digital inputs | |
| Number of digital inputs | 8; 8 (one-channel); 4 (two-channel) |
| Digital inputs, parameterizable | Yes |
| Input characteristic curve in accordance with IEC 61131, type 1 | 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 V DC to +5 V DC |
| • for signal "1" | 15 V DC to 30 V DC |
| Input delay (for rated value of input voltage) | |
| for standard inputs | |
| — parameterizable | Yes; 0.8 / 1.6 / 3.2 / 6.4 / 12.8 ms |
| Cable length | |
| • unshielded, max. | 30 m |
| Digital outputs | |
| Number of digital outputs | 3 |
| • in groups of | 3 |
| Short-circuit protection | Yes; Electronic |
| • Response threshold, typ. | 10 A |
| Limitation of inductive shutdown voltage to | PM-switching: Typ. -26 V to (-48 V) |
| Controlling a digital input | No |
| Switching capacity of the outputs | |

| | |
|---|------------|
| • on lamp load, max. | 10 W |
| Output current | |
| • for signal "1" rated value | 2 A |
| • for signal "1" permissible range, max. | 2.4 A |
| • for signal "0" residual current, max. | 0.5 mA |
| Parallel switching of two outputs | |
| • for uprating | No |
| • for redundant control of a load | No |
| Switching frequency | |
| • with resistive load, max. | 30 Hz |
| • with inductive load, max. | 0.1 Hz |
| • on lamp load, max. | 10 Hz |
| Total current of the outputs (per group) | |
| all mounting positions | |
| — up to 60 °C, max. | 3.9 A |
| Cable length | |
| • unshielded, max. | 30 m |
| Encoder | |
| Connectable encoders | |
| • 2-wire sensor | No |
| — permissible quiescent current (2-wire sensor), max. | 0.5 mA |
| Interfaces | |
| Transmission procedure | 100BASE-TX |
| Number of PROFINET interfaces | 1 |
| 1. Interface | |
| Interface types | |
| • integrated switch | Yes |
| • M12 port | Yes |
| Interface types | |
| M12 port | |
| • Autonegotiation | Yes |
| • Autocrossing | Yes |
| • Transmission rate, max. | 100 Mbit/s |
| Protocols | |
| Supports protocol for PROFINET IO | Yes |
| PROFINET CBA | No |
| PROFIsafe | Yes |
| PROFINET IO Device | |
| Services | |

| | |
|--|--|
| — IRT with the option "high flexibility" | No; module will participate within an IRT topology |
| — Prioritized startup | No |
| Open IE communication | |
| • TCP/IP | No |
| • SNMP | Yes |
| • DCP | Yes |
| • LLDP | Yes |
| • ping | Yes |
| • ARP | Yes |
| Interrupts/diagnostics/status information | |
| Diagnostics function | Yes |
| Alarms | |
| • Diagnostic alarm | Yes |
| Diagnostic messages | |
| • Diagnostic information readable | Yes |
| • Monitoring the supply voltage | Yes; green "ON" LED |
| • Wire-break in actuator cable | Yes |
| • Wire-break in signal transmitter cable | Yes |
| • Short-circuit | Yes |
| • Short-circuit encoder supply | Yes |
| • Group error | Yes; Red/yellow "SF/MT" LED |
| Potential separation | |
| between the load voltages | Yes |
| between load voltage and all other switching components | No |
| between Ethernet and electronics | Yes |
| Potential separation channels | |
| • between the channels | 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 |
| Standards, approvals, certificates | |
| Suitable for safety-related tripping of standard modules | No |
| Highest safety class achievable in safety mode | |
| • Performance level according to ISO 13849-1 | PLe |
| • SIL acc. to IEC 61508 | SIL 2 (single-channel), SIL 3 (two-channel) |

| | |
|---|---------------------------------|
| • SILCL according to IEC 62061 | SIL 3 |
| Probability of failure (for service life of 20 years and repair time of 100 hours) | |
| — Low demand mode: PFDavg in accordance with SIL2 | < 6.00E-04, 1oo1 evaluation |
| — Low demand mode: PFDavg in accordance with SIL3 | < 1.00E-05, 1oo2 evaluation |
| — High demand/continuous mode: PFH in accordance with SIL2 | < 1.00E-08 1/h, 1oo1 evaluation |
| — High demand/continuous mode: PFH in accordance with SIL3 | < 2.00E-10 1/h, 1oo2 evaluation |
| Probability of failure of the digital outputs (for service life of 20 years and repair time of 100 hours) | |
| — Low demand mode: PFDavg in accordance with SIL3 | < 2.00E-05 |
| — High demand/continuous mode: PFH in accordance with SIL3 | < 7.00E-09 1/h |

Ambient conditions

| | |
|--------------------------------------|--------|
| Ambient temperature during operation | |
| • min. | -25 °C |
| • max. | 60 °C |

Connection method

| | |
|---------------------------------|-----------|
| Design of electrical connection | Connector |
|---------------------------------|-----------|

Dimensions

| | |
|--------|--------|
| Width | 60 mm |
| Height | 175 mm |
| Depth | 49 mm |

Weights

| | |
|-----------------------|------------|
| Weight, approx. | 940 g |
| last modified: | 04/10/2020 |