



SIMATIC ET 200AL, PROFINET interface module IM 157-1 PN, Degree of protection IP67

| General information                                      |                          |
|----------------------------------------------------------|--------------------------|
| Product type designation                                 | IM 157-1 PN              |
| HW functional status                                     | FS02                     |
| Firmware version                                         | V1.0.x                   |
| Vendor identification (VendorID)                         | 002AH                    |
| Product function                                         |                          |
| • I&M data                                               | Yes; I&M0 to I&M4        |
| • Isochronous mode                                       | No                       |
| • IRT                                                    | Yes                      |
| Engineering with                                         |                          |
| • STEP 7 TIA Portal configurable/integrated from version | STEP 7 V13 SP1 or higher |
| • STEP 7 configurable/integrated from version            | From V5.5 SP4 Hotfix 3   |
| • PROFINET from GSD version/GSD revision                 | GSDML V2.3.1             |
| Configuration control                                    |                          |
| via dataset                                              | 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 |
| Input current                                            |                          |
| Current consumption (rated value)                        | 100 mA                   |
| from load voltage 1L+ (unswitched voltage)               | 4 A; Maximum value       |
| from load voltage 2L+, max.                              | 4 A; Maximum value       |
| Power loss                                               |                          |
| Power loss, typ.                                         | 2.9 W                    |
| Address area                                             |                          |
| Address space per station                                |                          |
| • Address space per station, max.                        | 1 430 byte               |
| Interfaces                                               |                          |
| Number of PROFINET interfaces                            | 1                        |
| 1. Interface                                             |                          |
| Interface type                                           | PROFINET                 |
| Interface types                                          |                          |
| • M12 port                                               | Yes; 2x M12 D-coded      |
| • integrated switch                                      | Yes                      |
| Protocols                                                |                          |

|                                                                                        |                                                                                                                                       |
|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| • PROFINET IO Device                                                                   | Yes                                                                                                                                   |
| • Open IE communication                                                                | Yes                                                                                                                                   |
| <b>PROFINET IO Device</b>                                                              |                                                                                                                                       |
| <b>Services</b>                                                                        |                                                                                                                                       |
| — IRT                                                                                  | Yes                                                                                                                                   |
| — Prioritized startup                                                                  | Yes                                                                                                                                   |
| — Shared device                                                                        | Yes                                                                                                                                   |
| <b>Interface types</b>                                                                 |                                                                                                                                       |
| <b>M12 port</b>                                                                        |                                                                                                                                       |
| • Transmission procedure                                                               | PROFINET with 100 Mbit/s full duplex (100BASE-TX)                                                                                     |
| • 10 Mbps                                                                              | Yes; for Ethernet services                                                                                                            |
| • 100 Mbps                                                                             | Yes; PROFINET with 100 Mbit/s full duplex (100BASE-TX)                                                                                |
| • Autonegotiation                                                                      | Yes                                                                                                                                   |
| • Autocrossing                                                                         | Yes                                                                                                                                   |
| <b>Protocols</b>                                                                       |                                                                                                                                       |
| Supports protocol for PROFINET IO                                                      | Yes                                                                                                                                   |
| PROFIsafe                                                                              | No                                                                                                                                    |
| PROFIBUS                                                                               | No                                                                                                                                    |
| EtherNet/IP                                                                            | No                                                                                                                                    |
| <b>PROFINET IO Device</b>                                                              |                                                                                                                                       |
| <b>Services</b>                                                                        |                                                                                                                                       |
| — IRT                                                                                  | Yes; 250 µs, 500 µs, 1 ms, 2 ms, 4 ms, 8 ms, 16 ms, 32 ms, 64 ms, 128 ms                                                              |
| — PROFINergy                                                                           | Yes                                                                                                                                   |
| — Shared device                                                                        | Yes                                                                                                                                   |
| — Number of IO Controllers with shared device, max.                                    | 4                                                                                                                                     |
| <b>Redundancy mode</b>                                                                 |                                                                                                                                       |
| • PROFINET system redundancy (S2)                                                      | No                                                                                                                                    |
| • PROFINET system redundancy (R1)                                                      | No                                                                                                                                    |
| <b>Media redundancy</b>                                                                |                                                                                                                                       |
| — MRP                                                                                  | Yes                                                                                                                                   |
| — MRPD                                                                                 | Yes                                                                                                                                   |
| <b>Open IE communication</b>                                                           |                                                                                                                                       |
| • TCP/IP                                                                               | Yes                                                                                                                                   |
| • SNMP                                                                                 | Yes                                                                                                                                   |
| • LLDP                                                                                 | Yes                                                                                                                                   |
| <b>Interrupts/diagnostics/status information</b>                                       |                                                                                                                                       |
| Diagnostics function                                                                   | Yes                                                                                                                                   |
| <b>Alarms</b>                                                                          |                                                                                                                                       |
| • Diagnostic alarm                                                                     | Yes                                                                                                                                   |
| <b>Diagnostics indication LED</b>                                                      |                                                                                                                                       |
| • RUN LED                                                                              | Yes; green LED                                                                                                                        |
| • ERROR LED                                                                            | Yes; red LED                                                                                                                          |
| • MAINT LED                                                                            | Yes; Yellow LED                                                                                                                       |
| • Connection display LINK TX/RX                                                        | Yes; 2x green LED                                                                                                                     |
| <b>Potential separation</b>                                                            |                                                                                                                                       |
| between the load voltages                                                              | Yes                                                                                                                                   |
| between PROFINET and all other circuits                                                | Yes                                                                                                                                   |
| <b>Isolation</b>                                                                       |                                                                                                                                       |
| Isolation tested with                                                                  | 707 V DC (type test)                                                                                                                  |
| <b>Degree and class of protection</b>                                                  |                                                                                                                                       |
| IP degree of protection                                                                | IP65/67                                                                                                                               |
| <b>Standards, approvals, certificates</b>                                              |                                                                                                                                       |
| Suitable for safety-related tripping of standard modules                               | Yes; from FS01                                                                                                                        |
| <b>Highest safety class achievable for safety-related tripping of standard modules</b> |                                                                                                                                       |
| • 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> |

|                                                        |                                                                              |
|--------------------------------------------------------|------------------------------------------------------------------------------|
| <b>Security</b>                                        |                                                                              |
| PROFINET Security Class                                | 0                                                                            |
| <b>Ambient conditions</b>                              |                                                                              |
| Ambient temperature during operation                   |                                                                              |
| • min.                                                 | -25 °C                                                                       |
| • max.                                                 | 55 °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 |
| <b>Connection method</b>                               |                                                                              |
| Design of electrical connection for supply voltage     | M8, 4-pole                                                                   |
| ET-Connection                                          |                                                                              |
| • ET-Connection                                        | M8, 4-pin, shielded                                                          |
| <b>Dimensions</b>                                      |                                                                              |
| Width                                                  | 45 mm                                                                        |
| Height                                                 | 159 mm                                                                       |
| Depth                                                  | 40 mm                                                                        |
| <b>Weights</b>                                         |                                                                              |
| Weight, approx.                                        | 263 g                                                                        |
| <b>Classifications</b>                                 |                                                                              |

|        | Version | Classification |
|--------|---------|----------------|
| eClass | 14      | 27-24-26-08    |
| eClass | 12      | 27-24-26-08    |
| eClass | 9.1     | 27-24-26-08    |
| eClass | 9       | 27-24-26-08    |
| eClass | 8       | 27-24-26-08    |
| eClass | 7.1     | 27-24-26-08    |
| eClass | 6       | 27-24-26-08    |
| ETIM   | 10      | EC001604       |
| ETIM   | 9       | EC001604       |
| ETIM   | 8       | EC001604       |
| ETIM   | 7       | EC001604       |
| IDEA   | 4       | 3564           |
| UNSPSC | 15      | 32-15-17-05    |

|                                 |  |
|---------------------------------|--|
| <b>Approvals / Certificates</b> |  |
| General Product Approval        |  |



[Confirmation](#)

[Miscellaneous](#)

|       |             |
|-------|-------------|
| other | Environment |
|-------|-------------|

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