



SIMATIC ET 200SP, PROFINET, 2-port interface module IM 155-6PN/2 High Feature, 1 slot for BusAdapter, max. 64 I/O modules and 16 ET 200AL modules, S2 redundancy, multi-hotswap, 0.25 ms, isochronous mode, optional PN strain relief, including server module

| General information                                      |                                                  |
|----------------------------------------------------------|--------------------------------------------------|
| Product type designation                                 | IM 155-6 PN/2 HF                                 |
| HW functional status                                     | From FS02                                        |
| Firmware version                                         | V4.2                                             |
| • FW update possible                                     | Yes                                              |
| Product function                                         |                                                  |
| • I&M data                                               | Yes; I&M0 to I&M3                                |
| • Module swapping during operation (hot swapping)        | Yes; Multi-hot swapping                          |
| • Isochronous mode                                       | Yes                                              |
| • Tool changer                                           | Yes; Docking station and docking unit            |
| Engineering with                                         |                                                  |
| • STEP 7 TIA Portal configurable/integrated from version | V15.1                                            |
| • STEP 7 configurable/integrated from version            | use GSD file                                     |
| • PROFINET from GSD version/GSD revision                 | GSDML V2.34                                      |
| Configuration control                                    |                                                  |
| via dataset                                              | Yes                                              |
| Supply voltage                                           |                                                  |
| Rated value (DC)                                         | 24 V                                             |
| permissible range, lower limit (DC)                      | 19.2 V                                           |
| permissible range, upper limit (DC)                      | 28.8 V                                           |
| Reverse polarity protection                              | Yes                                              |
| Short-circuit protection                                 | Yes                                              |
| Mains buffering                                          |                                                  |
| • Mains/voltage failure stored energy time               | 10 ms                                            |
| Input current                                            |                                                  |
| Current consumption, max.                                | 700 mA                                           |
| Inrush current, max.                                     | 4.5 A                                            |
| $I^2t$                                                   | 0.25 A <sup>2</sup> ·s                           |
| Power loss                                               |                                                  |
| Power loss, typ.                                         | 2.4 W                                            |
| Address area                                             |                                                  |
| Address space per module                                 |                                                  |
| • Address space per module, max.                         | 288 byte; For input and output data respectively |
| Address space per station                                |                                                  |
| • Address space per station, max.                        | 1 440 byte                                       |
| Hardware configuration                                   |                                                  |
| Rack                                                     |                                                  |
| • Quantity of operable ET 200SP modules, max.            | 64                                               |
| • Quantity of operable ET 200AL modules, max.            | 16                                               |
| Submodules                                               |                                                  |

|                                                                                                                                                                                                      |                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| • Number of submodules per station, max.                                                                                                                                                             | 256                                                                                                                                                  |
| <b>Interfaces</b>                                                                                                                                                                                    |                                                                                                                                                      |
| Number of PROFINET interfaces                                                                                                                                                                        | 1; 2 ports (switch)                                                                                                                                  |
| <b>1. Interface</b>                                                                                                                                                                                  |                                                                                                                                                      |
| <b>Interface types</b>                                                                                                                                                                               |                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>• RJ 45 (Ethernet)</li> <li>• Number of ports</li> <li>• integrated switch</li> <li>• BusAdapter (PROFINET)</li> </ul>                                        | Yes; with BusAdapter<br>2; with BusAdapter<br>Yes<br>Yes; BA 2x RJ45, BA 2x FC, BA 2x SCRJ, BA SCRJ/RJ45, BA SCRJ/FC, BA 2x LC, BA LC/RJ45, BA LC/FC |
| <b>Protocols</b>                                                                                                                                                                                     |                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>• PROFINET IO Device</li> <li>• Open IE communication</li> <li>• Media redundancy</li> </ul>                                                                  | Yes<br>Yes<br>Yes; PROFINET MRP client                                                                                                               |
| <b>PROFINET IO Device</b>                                                                                                                                                                            |                                                                                                                                                      |
| <b>Services</b>                                                                                                                                                                                      |                                                                                                                                                      |
| — IRT                                                                                                                                                                                                | Yes; 250 µs to 4 ms in 125 µs frame                                                                                                                  |
| — PROFINergy                                                                                                                                                                                         | Yes                                                                                                                                                  |
| — Prioritized startup                                                                                                                                                                                | Yes                                                                                                                                                  |
| — Shared device                                                                                                                                                                                      | Yes                                                                                                                                                  |
| — Number of IO Controllers with shared device, max.                                                                                                                                                  | 4                                                                                                                                                    |
| <b>Interface types</b>                                                                                                                                                                               |                                                                                                                                                      |
| <b>RJ 45 (Ethernet)</b>                                                                                                                                                                              |                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>• Transmission procedure</li> <li>• 100 Mbps</li> <li>• Autonegotiation</li> <li>• Autocrossing</li> </ul>                                                    | PROFINET with 100 Mbit/s full duplex (100BASE-TX)<br>Yes<br>Yes<br>Yes                                                                               |
| <b>Protocols</b>                                                                                                                                                                                     |                                                                                                                                                      |
| Modbus TCP                                                                                                                                                                                           | No                                                                                                                                                   |
| <b>Number of connections</b>                                                                                                                                                                         |                                                                                                                                                      |
| • Number of MtM communication relationships/connections, max.                                                                                                                                        | 16                                                                                                                                                   |
| <b>Redundancy mode</b>                                                                                                                                                                               |                                                                                                                                                      |
| • PROFINET system redundancy (S2)                                                                                                                                                                    | Yes; NAP S2                                                                                                                                          |
| • H-Sync forwarding                                                                                                                                                                                  | Yes                                                                                                                                                  |
| <b>Media redundancy</b>                                                                                                                                                                              |                                                                                                                                                      |
| — MRP                                                                                                                                                                                                | Yes                                                                                                                                                  |
| — MRPD                                                                                                                                                                                               | No                                                                                                                                                   |
| <b>Open IE communication</b>                                                                                                                                                                         |                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>• TCP/IP</li> <li>• SNMP</li> <li>• LLDP</li> </ul>                                                                                                           | Yes<br>Yes<br>Yes                                                                                                                                    |
| <b>Isochronous mode</b>                                                                                                                                                                              |                                                                                                                                                      |
| Equidistance                                                                                                                                                                                         | Yes                                                                                                                                                  |
| shortest clock pulse                                                                                                                                                                                 | 250 µs                                                                                                                                               |
| max. cycle                                                                                                                                                                                           | 4 ms                                                                                                                                                 |
| Bus cycle time (TDP), min.                                                                                                                                                                           | 250 µs                                                                                                                                               |
| Jitter, max.                                                                                                                                                                                         | 1 µs                                                                                                                                                 |
| <b>Interrupts/diagnostics/status information</b>                                                                                                                                                     |                                                                                                                                                      |
| Status indicator                                                                                                                                                                                     | Yes                                                                                                                                                  |
| Alarms                                                                                                                                                                                               | Yes                                                                                                                                                  |
| Diagnostics function                                                                                                                                                                                 | Yes                                                                                                                                                  |
| <b>Diagnostics indication LED</b>                                                                                                                                                                    |                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>• RUN LED</li> <li>• ERROR LED</li> <li>• MAINT LED</li> <li>• Monitoring of the supply voltage (PWR-LED)</li> <li>• Connection display LINK TX/RX</li> </ul> | Yes; green LED<br>Yes; red LED<br>Yes; Yellow LED<br>Yes; green PWR LED<br>Yes; 2x green link LEDs on BusAdapter                                     |
| <b>Potential separation</b>                                                                                                                                                                          |                                                                                                                                                      |
| between backplane bus and electronics                                                                                                                                                                | No                                                                                                                                                   |
| between PROFINET and all other circuits                                                                                                                                                              | Yes; 1500 V AC (type test)                                                                                                                           |

|                                                                                               |                                                                        |
|-----------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| between supply and all other circuits                                                         | No                                                                     |
| <b>Permissible potential difference</b>                                                       |                                                                        |
| between different circuits                                                                    | Safety extra low voltage SELV                                          |
| <b>Isolation</b>                                                                              |                                                                        |
| Isolation tested with                                                                         | 707 V DC (type test)                                                   |
| <b>Standards, approvals, certificates</b>                                                     |                                                                        |
| Network loading class                                                                         | 3                                                                      |
| <b>Ecological footprint</b>                                                                   |                                                                        |
| • environmental product declaration                                                           | Yes                                                                    |
| <b>Global warming potential</b>                                                               |                                                                        |
| — global warming potential, (total) [CO2 eq]                                                  | 105 kg                                                                 |
| — global warming potential, (during production) [CO2 eq]                                      | 13.7 kg                                                                |
| — global warming potential, (during operation) [CO2 eq]                                       | 91.9 kg                                                                |
| — global warming potential, (after end of life cycle) [CO2 eq]                                | -0.617 kg                                                              |
| <b>Ambient conditions</b>                                                                     |                                                                        |
| <b>Ambient temperature during operation</b>                                                   |                                                                        |
| • horizontal installation, min.                                                               | -30 °C; No condensation                                                |
| • horizontal installation, max.                                                               | 60 °C                                                                  |
| • vertical installation, min.                                                                 | -30 °C; No condensation                                                |
| • vertical installation, max.                                                                 | 50 °C                                                                  |
| <b>Altitude during operation relating to sea level</b>                                        |                                                                        |
| • Installation altitude above sea level, max.                                                 | 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual |
| <b>connection method</b>                                                                      |                                                                        |
| <b>ET-Connection</b>                                                                          |                                                                        |
| • via BU/BA Send                                                                              | Yes; + 16 ET 200AL modules                                             |
| <b>Mechanics/material</b>                                                                     |                                                                        |
| Strain relief                                                                                 | Yes; Optional                                                          |
| <b>Dimensions</b>                                                                             |                                                                        |
| Width                                                                                         | 50 mm                                                                  |
| Height                                                                                        | 117 mm                                                                 |
| Depth                                                                                         | 74 mm                                                                  |
| <b>Weights</b>                                                                                |                                                                        |
| Weight, approx.                                                                               | 120 g; without BusAdapter                                              |
| <b>last modified:</b>                                                                         |                                                                        |
| 10/9/2024  |                                                                        |