

\*\*\* Spare part \*\*\* SIMATIC ET 200SP, PROFINET interface module  
IM 155-6PN High Feature max. 64 I/O modules, 0.25 ms isochronous  
mode Multi-hotswap, incl. server module



| General information                                                                                      |                         |
|----------------------------------------------------------------------------------------------------------|-------------------------|
| Product type designation                                                                                 | IM 155-6 PN HF          |
| Firmware version                                                                                         | V3.3                    |
| Product function                                                                                         |                         |
| <ul style="list-style-type: none"> <li>I&amp;M data</li> </ul>                                           | Yes; I&M0 to I&M4       |
| <ul style="list-style-type: none"> <li>Module swapping during operation (hot swapping)</li> </ul>        | Yes; Multi-hot swapping |
| <ul style="list-style-type: none"> <li>Isochronous mode</li> </ul>                                       | Yes                     |
| Engineering with                                                                                         |                         |
| <ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul> | V13 SP1 Update 6        |
| <ul style="list-style-type: none"> <li>STEP 7 configurable/integrated from version</li> </ul>            | V5.5 SP4 and higher     |
| <ul style="list-style-type: none"> <li>PROFINET from GSD version/GSD revision</li> </ul>                 | - / V2.3                |
| 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                                                                                                                                                                                                                                        |
| Mains buffering                            |                                                                                                                                                                                                                                            |
| • Mains/voltage failure stored energy time | 5 ms                                                                                                                                                                                                                                       |
| Input current                              |                                                                                                                                                                                                                                            |
| Current consumption, max.                  | 700 mA                                                                                                                                                                                                                                     |
| Inrush current, max.                       | 4.5 A                                                                                                                                                                                                                                      |
| $I^2t$                                     | 0.09 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; Dependent on configuration                                                                                                                                                                                                     |
| Hardware configuration                     |                                                                                                                                                                                                                                            |
| Rack                                       |                                                                                                                                                                                                                                            |
| • Modules per rack, max.                   | 64; + 16 ET 200AL modules                                                                                                                                                                                                                  |
| Submodules                                 |                                                                                                                                                                                                                                            |
| • Number of submodules per station, max.   | 256                                                                                                                                                                                                                                        |
| Interfaces                                 |                                                                                                                                                                                                                                            |
| Number of PROFINET interfaces              | 1; 2 ports (switch)                                                                                                                                                                                                                        |
| 1. Interface                               |                                                                                                                                                                                                                                            |
| Interface types                            |                                                                                                                                                                                                                                            |
| • Number of ports                          | 2                                                                                                                                                                                                                                          |
| • integrated switch                        | Yes                                                                                                                                                                                                                                        |
| • BusAdapter (PROFINET)                    | Yes; Compatible BusAdapter: BA 2x RJ45, BA 2x FC, BA 2x SCRJ (from FS03, V2.2), BA SCRJ / RJ45 (from FS03, V3.1), BA SCRJ / FC (from FS03, V3.1), BA 2x LC (from FS03, V3.3), BA LC / RJ45 (from FS03, V3.3), BA LC / FC (from FS03, V3.3) |
| Protocols                                  |                                                                                                                                                                                                                                            |
| • PROFINET IO Device                       | Yes                                                                                                                                                                                                                                        |
| • Open IE communication                    | Yes                                                                                                                                                                                                                                        |
| • Media redundancy                         | Yes; PROFINET MRP                                                                                                                                                                                                                          |
| Interface types                            |                                                                                                                                                                                                                                            |
| RJ 45 (Ethernet)                           |                                                                                                                                                                                                                                            |
| • Transmission procedure                   | PROFINET with 100 Mbit/s full duplex (100BASE-TX)                                                                                                                                                                                          |
| • 10 Mbps                                  | No                                                                                                                                                                                                                                         |
| • 100 Mbps                                 | Yes; PROFINET with 100 Mbit/s full duplex (100BASE-TX)                                                                                                                                                                                     |
| • Autonegotiation                          | Yes                                                                                                                                                                                                                                        |

- Autocrossing

Yes

## Protocols

### PROFINET IO Device

#### Services

|                                                     |                                                                                                                                       |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| — IRT                                               | Yes; 250 $\mu$ s, 500 $\mu$ s, 1 ms, 2 ms, 4 ms additionally with IRT with high performance: 250 $\mu$ s to 4 ms in 125 $\mu$ s frame |
| — PROFINergy                                        | Yes                                                                                                                                   |
| — Prioritized startup                               | Yes                                                                                                                                   |
| — Shared device                                     | Yes                                                                                                                                   |
| — Number of IO Controllers with shared device, max. | 4                                                                                                                                     |

#### Redundancy mode

- PROFINET system redundancy (S2) Yes; NAP S2

#### Media redundancy

|        |     |
|--------|-----|
| — MRP  | Yes |
| — MRPD | No  |

#### Open IE communication

- TCP/IP Yes
- SNMP Yes
- LLDP Yes

## Isochronous mode

|                            |             |
|----------------------------|-------------|
| Equidistance               | Yes         |
| shortest clock pulse       | 250 $\mu$ s |
| max. cycle                 | 4 ms        |
| Bus cycle time (TDP), min. | 250 $\mu$ s |
| Jitter, max.               | 1 $\mu$ s   |

## Interrupts/diagnostics/status information

|                      |     |
|----------------------|-----|
| Status indicator     | Yes |
| Alarms               | Yes |
| Diagnostics function | Yes |

#### Diagnostics indication LED

- RUN LED Yes; green LED
- ERROR LED Yes; red LED
- MAINT LED Yes; Yellow LED
- Monitoring of the supply voltage (PWR-LED) Yes; green PWR LED

## Potential separation

|                                         |     |
|-----------------------------------------|-----|
| between backplane bus and electronics   | No  |
| between PROFINET and all other circuits | Yes |
| between supply and all other circuits   | Yes |

## Isolation

|                                           |                                                                                                                         |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Isolation tested with                     | 707 V DC between supply voltage and electronics (type test); 1<br>500 V AC between Ethernet and electronics (type test) |
| <b>Standards, approvals, certificates</b> |                                                                                                                         |
| Network loading class                     | 3                                                                                                                       |
| Security level                            | According to Security Level 1 Test Cases V1.1.1                                                                         |
| <b>Ambient conditions</b>                 |                                                                                                                         |
| Ambient temperature during operation      |                                                                                                                         |
| • horizontal installation, min.           | 0 °C                                                                                                                    |
| • horizontal installation, max.           | 60 °C                                                                                                                   |
| • vertical installation, min.             | 0 °C                                                                                                                    |
| • vertical installation, max.             | 50 °C                                                                                                                   |
| <b>Connection method</b>                  |                                                                                                                         |
| ET-Connection                             |                                                                                                                         |
| • via BU/BA Send                          | Yes; + 16 ET 200AL modules                                                                                              |
| <b>Dimensions</b>                         |                                                                                                                         |
| Width                                     | 50 mm                                                                                                                   |
| Height                                    | 117 mm                                                                                                                  |
| Depth                                     | 74 mm                                                                                                                   |
| <b>Weights</b>                            |                                                                                                                         |
| Weight, approx.                           | 147 g; without BusAdapter                                                                                               |
| <b>last modified:</b>                     | 10/09/2020                                                                                                              |