## SIEMENS

## Data sheet

## 6ES7155-6AU01-0BN0



SIMATIC ET 200SP, PROFINET interface module IM 155-6PN Standard, max. 32 I/O modules, and 16 ET 200AL modules, single hot swap, incl. server module (6ES7193-6PA00-0AA0)

| Product type designation     IM 155-6 PN ST       HW functional status     From FS03       Firmware version     From FS03       • FW update possible     Yes       Product function     Yes; I&M0 to I&M3       • I&M data     Yes; Single hot swapping       • Is&M data     Yes; Single hot swapping       • Is&M data     Yes; Single hot swapping       • ISEP 7 TIA Portal configurable/integrated from version     V14       • STEP 7 configurable/integrated from version     V5.5 SP4 and higher       • STEP 7 configurable/integrated from version     V2.3 / -       Configuration control     Via dataset       via dataset     Yes       Supply voltage     Person       Rated value (DC)     24 V       permissible range, upper limit (DC)     19 2 V       permissible range, upper limit (DC)     28.8 V       Reverse polarity protection     Yes       Mains buffering     10 ms       Input curront     10 ms       Input curront max.     37 A       Current consumption, max.     550 mA       Inrush current, max.     37 A       Power loss     4.5 W       Power loss     4.5 W       Power loss     4.5 W       Power loss     1.9 W       Address space per module     256 byte; per input / output<  | General information   |                              |
|--|---|------------------------------|
| Firmware version       Yes         Product function       Yes         Product function <ul> <li>(8M data</li> <li>Module swapping during operation (hot swapping)</li> <li>(8chtronous mode</li> <li>No         </li></ul> Engineering with <ul> <li>STEP 7 TIA Portal configurable/integrated from version</li> <li>STEP 7 configurable/integrated from version</li> <li>V5.5 SP4 and higher</li> <li>V2.3 / -</li> </ul> Configuration control <ul> <li>V3.5 SP4 and higher</li> <li>V2.3 / -</li> </ul> Configuration control <ul> <li>version</li> <li>V2.3 / -</li> </ul> Rated value (DC)       24 V         permissible range, lower limit (DC)       19.2 V         permissible range, lower limit (DC)       28.8 V         Reverse polarity protection       Yes         Short-circuit protection       Yes         Mains/voltage failure stored energy time       10 ms         Inrush current <ul> <li>Current consumption, max.</li> <li>10 ms</li> <li>Inrush current, max.</li> <li>3.7 A</li> <li>Pit</li> <li>0.09 A*s</li> </ul> Power loss <ul> <li>4.5 W</li></ul>   | Product type designation  | IM 155-6 PN ST               |
| • FW update possible     Yes       Product function     •       • I&M data     Yes; I&M0 to I&M3       • Module swapping during operation (hot swapping)     Yes; Single hot swapping       • Isochronous mode     No       Engineering with     •       • STEP 7 TIA Portal configurable/integrated from version     V14       • STEP 7 ton Figurable/integrated from version     V5.5 SP4 and higher       • PROFINET from GSD version/GSD revision     V2.3 / -       Configurable/integrated from version     V5.5 SP4 and higher       • Via dataset     Yes       Supply voltage   | HW functional status  | From FS03                    |
| Product function       /es; I&M0 to I&M3         • I&M data       /es; I&M0 to I&M3         • Module swapping during operation (hot swapping)       Yes; Single hot swapping         • Isochronous mode       No         • STEP 7 TIA Portal configurable/integrated from version       V14         • STEP 7 onfigurable/integrated from version       V5.5 SP4 and higher         • PROFINET from GSD version/GSD revision       V2.3 / -         Configurable/integrated from version       V5.5 SP4 and higher         • PROFINET from GSD version/GSD revision       V2.3 / -         Configurable/integrated from version       V5.5 SP4 and higher         • Valadaset       Yes         Supply voltage  | Firmware version  |                              |
| <ul> <li>i&amp;M data</li> <li>Yes; i&amp;M0 to i&amp;M3</li> <li>Yes; Single hot swapping</li> <li>isochronous mode</li> <li>No</li> </ul> Engineering with <ul> <li>STEP 7 TIA Portal configurable/integrated from version</li> <li>STEP 7 configurable/integrated from version</li> <li>V5.5 SP4 and higher</li> <li>PROFINET from GSD version/GSD revision</li> <li>V2.3 / -</li> </ul> Configuration control <ul> <li>via dataset</li> <li>Yes</li> </ul> Supply voltage Rated value (DC) <ul> <li>24 V</li> <li>permissible range, lower limit (DC)</li> <li>28.8 V</li> </ul> Reverse polarity protection <ul> <li>Yes</li> </ul> Short-circuit protection <ul> <li>Yes</li> <li>Mains buffering</li> <li>Mains/voltage failure stored energy time</li> <li>In mush current</li> <li>Current consumption (rated value)</li> <li>450 mA</li> <li>Current consumption, max.</li> <li>17 A</li> <li>Pt</li> <li>0.09 A<sup>2</sup> s</li> </ul> Power <ul> <li>Infeed power to the backplane bus</li> <li>4.5 W</li> </ul> Power loss <ul> <li>Power loss</li> <li>Power loss</li> <li>Power loss</li> <li>Power loss</li> <li>Power cost</li> <li>Address space per module</li> <li>Address space per module</li> <li>Address space per module, max.</li> <li>256 byte; per input / output</li> </ul>  | FW update possible  | Yes                          |
| Module swapping during operation (hot swapping)     No     Isochronous mode     No     Engineering with     STEP 7 TIA Portal configurable/integrated from     version     V14     STEP 7 configurable/integrated from version     V5.5 SP4 and higher     V14     V14 | Product function  |                              |
| • Isochronous mode       No         Engineering with       •         • STEP 7 TIA Portal configurable/integrated from version       V14         • STEP 7 configurable/integrated from version       V5.5 SP4 and higher         • PROFINET from GSD version/GSD revision       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         Short-circuit protection       Yes         Mains buffering       10 ms         Input current       20 mA         Current consumption (rated value)       450 mA         Current consumption, max.       550 mA         Inrush current, max.       3.7 A         IPt       0.09 A² s         Power       4.5 W         Power loss       4.5 W         Power loss, t  | ● I&M data  | Yes; I&M0 to I&M3            |
| Engineering with       • STEP 7 TIA Portal configurable/integrated from version       V14         • STEP 7 configurable/integrated from version       V5.5 SP4 and higher         • PROFINET from GSD version/GSD revision       V2.3 / -         Configuration control       Ves         supply voltage       Rated value (DC)         Permissible range, lower limit (DC)       19.2 V         permissible range, lower limit (DC)       28.8 V         Reverse polarity protection       Yes         Mains buffering       •         • Mains/voltage failure stored energy time       10 ms         Input current       Current consumption (rated value)         Current consumption, max.       550 mA         Inrush current, max.       3.7 A         Power       0.99 A*.s         Power loss       4.5 W         Power loss, typ.       1.9 W         Address space per module       426 byte; per input / output   | <ul> <li>Module swapping during operation (hot swapping)</li> </ul> | Yes; Single hot swapping     |
| • STEP 7 TIA Portal configurable/integrated from version       V14         • STEP 7 configurable/integrated from version       V5.5 SP4 and higher         • PROFINET from GSD version/GSD revision       V2.3 / -         Configuration control       Via dataset         Supply voltage       Yes         Rated value (DC)       24 V         permissible range, lower limit (DC)       19.2 V         permissible range, ower limit (DC)       28.8 V         Reverse polarity protection       Yes         Mains buffering       0         • Mains/voltage failure stored energy time       10 ms         Input current       20 participation         Current consumption (rated value)       450 mA         Current consumption, max.       550 mA         Inrush current, max.       3.7 A         Power       0.99 A²-s         Power loss       4.5 W         Power loss       4.5 W         Power loss       4.5 W         Power loss       1.9 W         Address space per module       256 byte; per input / output  | Isochronous mode  | No                           |
| version       V5.5 SP4 and higher         • STEP 7 configurable/integrated from version       V5.5 SP4 and higher         • PROFINET from GSD version/GSD revision       V2.3 / -         Configuration control       Via dataset         via dataset       Yes         Supply voltage       Rated value (DC)         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       10 ms         Input current       200 mA         Current consumption (rated value)       450 mA         Current consumption, max.       550 mA         Inrush current, max.       3.7 A         I <sup>4</sup> 0.09 A <sup>2</sup> ·s         Power       1.9 W         Address area       Address space per module         Address space per module       456 byte; per input / output   | Engineering with  |                              |
| PROFINET from GSD version/GSD revision     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 Short-circuit protection     Yes Mains buffering     • Mains/voltage failure stored energy time     10 ms Input current Current consumption, max.     550 mA Inrush current, max.     3.7 A IPt     0.09 A <sup>2</sup> ·s Power loss Power loss Power loss, typ.     1.9 W Address space per module     • Address space per module     • Address space per module     • Address space per module, max.     256 byte; per input / output  |   | V14                          |
| Configuration control         Via dataset       Yes         Supply voltage       24 V         Partial 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       0 ms         Input current       10 ms         Current consumption (rated value)       450 mA         Current consumption, max.       550 mA         Inrush current, max.       3.7 A         I <sup>1</sup> t       0.09 A <sup>2</sup> ·s         Power       1.9 W         Address space per module       4.5 W         Power loss       256 byte; per input / output  | <ul> <li>STEP 7 configurable/integrated from version</li> </ul>     | V5.5 SP4 and higher          |
| via dataset       Yes         Supply voltage       24 V         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/voltage failure stored energy time       10 ms         Input current       0 ms         Current consumption (rated value)       450 mA         Current consumption, max.       550 mA         Inrush current, max.       3.7 A         I*t       0.09 A²·s         Power       4.5 W         Power loss       Power loss         Power loss space per module       4.5 by ter input / output  | <ul> <li>PROFINET from GSD version/GSD revision</li> </ul>          | V2.3 / -                     |
| 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       10 ms         Input current       250 mA         Current consumption (rated value)       450 mA         Current consumption, max.       550 mA         Inrush current, max.       3.7 A         Pt       0.09 A²-s         Power       Infeed power to the backplane bus         Infeed power to the backplane bus       4.5 W         Power loss, typ.       1.9 W         Address space per module       256 byte; per input / output  | Configuration control   |                              |
| 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       10 ms         Input current       10 ms         Current consumption (rated value)       450 mA         Current consumption, max.       550 mA         Inrush current, max.       3.7 A         I*t       0.09 A²·s         Power       1.9 W         Address area       Address space per module, max.         Address space per module, max.       256 byte; per input / output  | via dataset   | Yes                          |
| 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       10 ms         • Mains/voltage failure stored energy time       10 ms         Input current       250 mA         Current consumption (rated value)       450 mA         Current, max.       550 mA         Inrush current, max.       3.7 A         I*t       0.09 A²-s         Power       11.9 W         Address space per module       4.5 byte; per input / output   | Supply voltage  |                              |
| permissible range, upper limit (DC)       28.8 V         Reverse polarity protection       Yes         Short-circuit protection       Yes         Mains buffering       10 ms         • Mains/voltage failure stored energy time       10 ms         Input current       250 mA         Current consumption (rated value)       450 mA         Current consumption, max.       550 mA         Inrush current, max.       3.7 A         I²t       0.09 A²·s         Power       Infeed power to the backplane bus         4.5 W       4.5 W         Power loss, typ.       1.9 W         Address space per module       4256 byte; per input / output   | Rated value (DC)  | 24 V                         |
| Reverse polarity protection       Yes         Short-circuit protection       Yes         Mains buffering       10 ms         Input current       10 ms         Current consumption (rated value)       450 mA         Current consumption, max.       550 mA         Inrush current, max.       3.7 A         I²t       0.09 A²·s         Power       450 W         Power loss       4.5 W         Power loss, typ.       1.9 W         Address space per module       426 byte; per input / output  | permissible range, lower limit (DC)                                 | 19.2 V                       |
| Short-circuit protection       Yes         Mains buffering       10 ms         Input current       10 ms         Current consumption (rated value)       450 mA         Current consumption, max.       550 mA         Inrush current, max.       3.7 A         I <sup>a</sup> t       0.09 A <sup>2</sup> ·s         Power       Infeed power to the backplane bus       4.5 W         Power loss       1.9 W         Address area       Address space per module         • Address space per module, max.       256 byte; per input / output   | permissible range, upper limit (DC)                                 | 28.8 V                       |
| Mains buffering       10 ms         Input current       10 ms         Current consumption (rated value)       450 mA         Current consumption, max.       550 mA         Inrush current, max.       3.7 A         I²t       0.09 A²·s         Power       Infeed power to the backplane bus         Infeed power to the backplane bus       4.5 W         Power loss       1.9 W         Address area       Address space per module         • Address space per module, max.       256 byte; per input / output  | Reverse polarity protection   |                              |
| Mains/voltage failure stored energy time     10 ms Input current Current consumption (rated value)     450 mA Current consumption, max.     550 mA Inrush current, max.     3.7 A I*t     0.09 A*-s Power Infeed power to the backplane bus     4.5 W Power loss Power loss Power loss, typ.     1.9 W Address area Address space per module     Address space per module, max.     256 byte; per input / output   | Short-circuit protection  | Yes                          |
| Input current         Current consumption (rated value)       450 mA         Current consumption, max.       550 mA         Inrush current, max.       3.7 A         I²t       0.09 A²-s         Power       Infeed power to the backplane bus         Infeed power to the backplane bus       4.5 W         Power loss       1.9 W         Address area       Address space per module         • Address space per module, max.       256 byte; per input / output  | Mains buffering   |                              |
| Current consumption (rated value)       450 mA         Current consumption, max.       550 mA         Inrush current, max.       3.7 A         I²t       0.09 A²·s         Power       Infeed power to the backplane bus         Infeed power to the backplane bus       4.5 W         Power loss       Power loss         Power loss, typ.       1.9 W         Address area       Address space per module         • Address space per module, max.       256 byte; per input / output  | <ul> <li>Mains/voltage failure stored energy time</li> </ul>        | 10 ms                        |
| Current consumption, max.       550 mA         Inrush current, max.       3.7 A         I²t       0.09 A²·s         Power       Infeed power to the backplane bus         Infeed power to the backplane bus       4.5 W         Power loss       Power loss         Power loss typ.       1.9 W         Address area       Address space per module         • Address space per module, max.       256 byte; per input / output  | Input current   |                              |
| Inrush current, max.       3.7 A         I²t       0.09 A²·s         Power       Infeed power to the backplane bus         Infeed power to the backplane bus       4.5 W         Power loss       4.5 W         Power loss       1.9 W         Address area       Address space per module         • Address space per module, max.       256 byte; per input / output   | Current consumption (rated value)                                   | 450 mA                       |
| I²t       0.09 A²·s         Power       Infeed power to the backplane bus         Infeed power to the backplane bus       4.5 W         Power loss       4.5 W         Power loss       1.9 W         Address area       Address space per module         • Address space per module, max.       256 byte; per input / output  | Current consumption, max.   | 550 mA                       |
| Power         Infeed power to the backplane bus       4.5 W         Power loss       Power loss, typ.         Power loss, typ.       1.9 W         Address area       Address space per module         • Address space per module, max.       256 byte; per input / output   | Inrush current, max.  | 3.7 A                        |
| Infeed power to the backplane bus       4.5 W         Power loss       1.9 W         Address area       1.9 W         Address space per module       256 byte; per input / output  | l²t   | 0.09 A <sup>2</sup> ·s       |
| Power loss       1.9 W         Address area       Address space per module         Address space per module, max.       256 byte; per input / output   | Power   |                              |
| Power loss, typ.     1.9 W       Address area     Address space per module       • Address space per module, max.     256 byte; per input / output   | Infeed power to the backplane bus                                   | 4.5 W                        |
| Address area         Address space per module         • Address space per module, max.         256 byte; per input / output  | Power loss  |                              |
| Address space per module       256 byte; per input / output  | Power loss, typ.  | 1.9 W                        |
| Address space per module, max. 256 byte; per input / output  | Address area  |                              |
|  | Address space per module  |                              |
| Address space per station  | Address space per module, max.                                      | 256 byte; per input / output |
|  | Address space per station   |                              |

| <ul> <li>Address space per station, max.</li> </ul>                          | 512 byte; Dependent on configuration                                       |
|--|--|
| Hardware configuration   |  |
| Rack   |  |
| Quantity of operable ET 200SP modules, max.                                  | 32   |
| Quantity of operable ET 200AL modules, max.                                  | 16   |
| Submodules   | 10   |
| Number of submodules per station, max.                                       | 256  |
|  | 230  |
| Interfaces   | 4. O mente (autitale)  |
| Number of PROFINET interfaces  | 1; 2 ports (switch)  |
| 1. Interface   |  |
| Interface types  |  |
| Number of ports  | 2  |
| <ul> <li>integrated switch</li> </ul>  | Yes  |
| BusAdapter (PROFINET)  | Yes; compatible BusAdapters: BA 2x RJ45, BA 2x FC, BA 2x M12               |
| Protocols  |  |
| PROFINET IO Device   | Yes  |
| <ul> <li>Open IE communication</li> </ul>                                    | Yes  |
| Media redundancy   | Yes; PROFINET MRP  |
| Interface types  |  |
| RJ 45 (Ethernet)   |  |
| <ul> <li>Transmission procedure</li> </ul>                                   | PROFINET with 100 Mbit/s full duplex (100BASE-TX)                          |
| • 100 Mbps   | Yes; PROFINET with 100 Mbit/s full duplex (100BASE-TX)                     |
| <ul> <li>Autonegotiation</li> </ul>  | Yes  |
| Autocrossing   | Yes  |
| Protocols  |  |
| PROFINET IO Device   |  |
| Services   |  |
| — IRT  | Yes; with send cycles of between 250 $\mu$ s and 4 ms in increments of 125 |
|  | μs   |
| — PROFlenergy  | Yes  |
| <ul> <li>Prioritized startup</li> </ul>                                      | Yes  |
| — Shared device  | Yes  |
| <ul> <li>— Number of IO Controllers with shared device,</li> </ul>           | 2  |
| max.   |  |
| Redundancy mode  | Na   |
| PROFINET system redundancy (S2)  | No   |
| Media redundancy   | Vez  |
| - MRP  | Yes  |
| — MRPD   | No   |
| Open IE communication  |  |
|  | Yes  |
| • SNMP   | Yes  |
| • LLDP   | Yes  |
| Interrupts/diagnostics/status information                                    |  |
| Status indicator   | Yes  |
| Alarms   | Yes  |
| Diagnostics function   | Yes  |
| Diagnostics indication LED     • RUN LED                                     | Voe: groon LED   |
| • ERROR LED  | Yes; green LED<br>Yes; red LED   |
| AAINT LED  | Yes; Yellow LED  |
|  |  |
| Monitoring of the supply voltage (PWR-LED)     Connection display LINK TY/RY | Yes; green PWR LED   |
| Connection display LINK TX/RX  | Yes; 2x green link LEDs on BusAdapter                                      |
| Potential separation   | AL.  |
| 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   |
| Permissible potential difference   |  |

| between different circuits                                      | Safety extra low voltage SELV                   |
|---|---|
| Isolation   |   |
| Isolation tested with   | 707 V DC (type test)                            |
| Standards, approvals, certificates                              |   |
| Network loading class   | 2   |
| Security level  | According to Security Level 1 Test Cases V1.1.1 |
| Ambient conditions  |   |
| Ambient temperature during operation                            |   |
| <ul> <li>horizontal installation, min.</li> </ul>               | 0 °C  |
| <ul> <li>horizontal installation, max.</li> </ul>               | 60 °C   |
| <ul> <li>vertical installation, min.</li> </ul>                 | 0 °C  |
| <ul> <li>vertical installation, max.</li> </ul>                 | 50 °C   |
| Altitude during operation relating to sea level                 |   |
| <ul> <li>Installation altitude above sea level, max.</li> </ul> | 5 000 m   |
| Connection method   |   |
| ET-Connection   |   |
| <ul> <li>via BU/BA Send</li> </ul>                              | Yes; + 16 ET 200AL modules                      |
| Dimensions  |   |
| Width   | 50 mm   |
| Height  | 117 mm  |
| Depth   | 74 mm   |
| Weights   |   |
| Weight, approx.   | 147 g; without BusAdapter                       |
| last modified:  | 3/17/2021 🖸                                     |