



**THE DATASHEET OF
6ES71316BH010BA0**





SIMATIC ET 200SP, Digital input module, DI 16x 24V DC Standard, type 3 (IEC 61131), sink input, (PNP, P-reading), Packing unit: 1 Piece, fits to BU-type A0, Colour Code CC00, input delay time 0,05..20ms, diagnostics wire break, diagnostics supply voltage

| General information | |
|---|--|
| Product type designation | DI 16x24VDC ST |
| HW functional status | From FS02 |
| Firmware version | V0.0 |
| • FW update possible | No |
| usable BaseUnits | BU type A0 |
| Color code for module-specific color identification plate | CC00 |
| Product function | |
| • I&M data | Yes; I&M0 to I&M3 |
| • Isochronous mode | No |
| Engineering with | |
| • STEP 7 TIA Portal configurable/integrated from version | V14 |
| • STEP 7 configurable/integrated from version | V5.5 SP3 |
| • PCS 7 configurable/integrated from version | V8.1 SP1 |
| • PROFIBUS from GSD version/GSD revision | One GSD file each, Revision 3 and 5 and higher |
| • PROFINET from GSD version/GSD revision | GSDML V2.3 |
| Operating mode | |
| • DI | Yes |
| • Counter | No |
| • Oversampling | No |
| • MSI | No |
| 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 |
| Input current | |
| Current consumption, max. | 90 mA |
| Encoder supply | |
| 24 V encoder supply | |
| • 24 V | No |
| Power loss | |
| Power loss, typ. | 1.7 W |
| Address area | |
| Address space per module | |
| • Inputs | 2 byte; + 2 bytes for QI information |
| Hardware configuration | |
| Automatic encoding | Yes |
| • Mechanical coding element | Yes |
| • Type of mechanical coding element | Type A |

| | |
|---|---|
| Selection of BaseUnit for connection variants | |
| <ul style="list-style-type: none"> • 1-wire connection • 2-wire connection • 3-wire connection • 4-wire connection | BU type A0 BU type A0 + Potential distributor module BU type A0 + Potential distributor module BU type A0 + Potential distributor module |
| Digital inputs | |
| Number of digital inputs | 16 |
| Digital inputs, parameterizable | Yes |
| Source/sink input | P-reading |
| Input characteristic curve in accordance with IEC 61131, type 3 | Yes |
| Input voltage | |
| <ul style="list-style-type: none"> • Rated value (DC) • for signal "0" • for signal "1" | 24 V -30 to +5 V +11 to +30V |
| Input current | |
| <ul style="list-style-type: none"> • for signal "1", typ. | 2.5 mA |
| Input delay (for rated value of input voltage) | |
| for standard inputs | |
| — parameterizable | Yes; 0.05 / 0.1 / 0.4 / 0.8 / 1.6 / 3.2 / 12.8 / 20 ms (in each case + delay of 30 to 500 μ s, depending on line length) |
| — at "0" to "1", min. | 0.05 ms |
| — at "0" to "1", max. | 20 ms |
| — at "1" to "0", min. | 0.05 ms |
| — at "1" to "0", max. | 20 ms |
| Cable length | |
| <ul style="list-style-type: none"> • shielded, max. • unshielded, max. | 1 000 m 600 m |
| Encoder | |
| Connectable encoders | |
| <ul style="list-style-type: none"> • 2-wire sensor — permissible quiescent current (2-wire sensor), max. | Yes 1.5 mA |
| Interrupts/diagnostics/status information | |
| Diagnostics function | Yes |
| Alarms | |
| <ul style="list-style-type: none"> • Diagnostic alarm | Yes |
| Diagnoses | |
| <ul style="list-style-type: none"> • Diagnostic information readable • Monitoring the supply voltage — parameterizable • Monitoring of encoder power supply • Wire-break • Short-circuit • Group error | Yes Yes Yes No Yes; Module-by-module, optional protective circuit for preventing wire-break diagnostics in the case of simple encoder contacts: 25 kOhm to 45 kOhm No Yes |
| Diagnostics indication LED | |
| <ul style="list-style-type: none"> • Monitoring of the supply voltage (PWR-LED) • Channel status display • for channel diagnostics • for module diagnostics | Yes; green PWR LED Yes; green LED No Yes; green/red DIAG LED |
| Potential separation | |
| Potential separation channels | |
| <ul style="list-style-type: none"> • between the channels • between the channels and backplane bus • between the channels and the power supply of the electronics | No Yes No |
| Isolation | |
| Isolation tested with | 707 V DC (type test) |
| Standards, approvals, certificates | |
| Suitable for safety functions | No |
| Ambient conditions | |
| Ambient temperature during operation | |

- horizontal installation, min. -30 °C; < 0 °C as of FS02
- horizontal installation, max. 60 °C
- vertical installation, min. -30 °C; < 0 °C as of FS02
- vertical installation, max. 50 °C

Altitude during operation relating to sea level

- Installation altitude above sea level, max. 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual

Dimensions

| | |
|--------|-------|
| Width | 15 mm |
| Height | 73 mm |
| Depth | 58 mm |



Weights

| | |
|-----------------|------|
| Weight, approx. | 28 g |
|-----------------|------|

last modified: 3/12/2024 

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