

Siemens  
EcoTech



SIMATIC S7-1500 Digital input module, DI 16x24 V DC BA, 16 channels in groups of 16, input delay typ. 3.2 ms, input type 3 (IEC 61131); Delivery incl. front connector Push-in



### General information

|                          |                    |
|--------------------------|--------------------|
| Product type designation | DI 16 x 24 V DC BA |
| HW functional status     | from FS01          |
| Firmware version         | V1.0.0             |
| • FW update possible     | Yes                |

### Product function

|                       |                   |
|-----------------------|-------------------|
| • I&M data            | Yes; I&M0 to I&M3 |
| • Isochronous mode    | No                |
| • Prioritized startup | Yes               |

### Engineering with

|                                                          |              |
|----------------------------------------------------------|--------------|
| • STEP 7 TIA Portal configurable/integrated from version | V13 / V13    |
| • STEP 7 configurable/integrated from version            | V5.5 SP3 / - |
| • PROFIBUS from GSD version/GSD revision                 | V1.0 / V5.1  |
| • PROFINET from GSD version/GSD revision                 | V2.3 / -     |

### Operating mode

|           |     |
|-----------|-----|
| • DI      | Yes |
| • Counter | No  |
| • MSI     | Yes |

### Supply voltage

|                                     |        |
|-------------------------------------|--------|
| Rated value (DC)                    | 24 V   |
| permissible range, lower limit (DC) | 19.2 V |
| permissible range, upper limit (DC) | 28.8 V |

### Power

|                                          |        |
|------------------------------------------|--------|
| Power consumption from the backplane bus | 1.05 W |
|------------------------------------------|--------|

### Power loss

|                  |       |
|------------------|-------|
| Power loss, typ. | 1.8 W |
|------------------|-------|

### Digital inputs

|                                                                 |           |
|-----------------------------------------------------------------|-----------|
| Number of digital inputs                                        | 16        |
| Digital inputs, parameterizable                                 | No        |
| Source/sink input                                               | P-reading |
| Input characteristic curve in accordance with IEC 61131, type 3 | Yes       |

### Input voltage

|                    |             |
|--------------------|-------------|
| • Rated value (DC) | 24 V        |
| • for signal "0"   | -30 to +5 V |
| • for signal "1"   | +11 to +30V |

### Input current

|                        |        |
|------------------------|--------|
| • for signal "1", typ. | 2.7 mA |
|------------------------|--------|

|                                                                |                      |
|----------------------------------------------------------------|----------------------|
| Input delay (for rated value of input voltage)                 |                      |
| for standard inputs                                            |                      |
| — parameterizable                                              | No                   |
| — at "0" to "1", min.                                          | 3 ms                 |
| — at "0" to "1", max.                                          | 4 ms                 |
| — at "1" to "0", min.                                          | 3 ms                 |
| — at "1" to "0", max.                                          | 4 ms                 |
| for interrupt inputs                                           |                      |
| — parameterizable                                              | No                   |
| for technological functions                                    |                      |
| — parameterizable                                              | No                   |
| Cable length                                                   |                      |
| • shielded, max.                                               | 1 000 m              |
| • unshielded, max.                                             | 600 m                |
| <b>Encoder</b>                                                 |                      |
| Connectable encoders                                           |                      |
| • 2-wire sensor                                                | Yes                  |
| — permissible quiescent current (2-wire sensor), max.          | 1.5 mA               |
| <b>Interrupts/diagnostics/status information</b>               |                      |
| Diagnostics function                                           | No                   |
| Alarms                                                         |                      |
| • Diagnostic alarm                                             | No                   |
| • Hardware interrupt                                           | No                   |
| Diagnoses                                                      |                      |
| • Monitoring the supply voltage                                | No                   |
| • Wire-break                                                   | No                   |
| • Short-circuit                                                | No                   |
| Diagnostics indication LED                                     |                      |
| • RUN LED                                                      | Yes; green LED       |
| • ERROR LED                                                    | Yes; red LED         |
| • Monitoring of the supply voltage (PWR-LED)                   | No                   |
| • Channel status display                                       | Yes; green LED       |
| • for channel diagnostics                                      | No                   |
| • for module diagnostics                                       | No                   |
| <b>Potential separation</b>                                    |                      |
| Potential separation channels                                  |                      |
| • between the channels                                         | No                   |
| • between the channels, in groups of                           | 16                   |
| • between the channels and backplane bus                       | Yes                  |
| <b>Isolation</b>                                               |                      |
| Isolation tested with                                          | 707 V DC (type test) |
| <b>Standards, approvals, certificates</b>                      |                      |
| Siemens Eco Profile (SEP)                                      | Siemens EcoTech      |
| Suitable for safety functions                                  | No                   |
| <b>Ecological footprint</b>                                    |                      |
| • environmental product declaration                            | Yes                  |
| Global warming potential                                       |                      |
| — global warming potential, (total) [CO2 eq]                   | 18.9 kg              |
| — global warming potential, (during production) [CO2 eq]       | 12.1 kg              |
| — global warming potential, (during operation) [CO2 eq]        | 7.66 kg              |
| — global warming potential, (after end of life cycle) [CO2 eq] | -1.02 kg             |
| <b>product functions / security / header</b>                   |                      |
| signed firmware update                                         | No                   |
| data integrity                                                 | No                   |
| <b>Ambient conditions</b>                                      |                      |
| Ambient temperature during operation                           |                      |
| • horizontal installation, min.                                | -30 °C; from FS04    |
| • horizontal installation, max.                                | 60 °C                |

- vertical installation, min. -30 °C; from FS04
- vertical installation, max. 40 °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  | 25 mm  |
| Height | 147 mm |
| Depth  | 129 mm |

#### Weights

|                 |       |
|-----------------|-------|
| Weight, approx. | 230 g |
|-----------------|-------|

#### Other

|       |                                                 |
|-------|-------------------------------------------------|
| Note: | Supplied incl. 40-pole push-in front connectors |
|-------|-------------------------------------------------|

#### Classifications

|        | Version | Classification |
|--------|---------|----------------|
| eClass | 14      | 27-24-22-04    |
| eClass | 12      | 27-24-22-04    |
| eClass | 9.1     | 27-24-22-04    |
| eClass | 9       | 27-24-22-04    |
| eClass | 8       | 27-24-22-04    |
| eClass | 7.1     | 27-24-22-04    |
| eClass | 6       | 27-24-22-04    |
| ETIM   | 9       | EC001419       |
| ETIM   | 8       | EC001419       |
| ETIM   | 7       | EC001419       |
| IDEA   | 4       | 3566           |
| UNSPSC | 15      | 32-15-17-05    |

#### Approvals / Certificates

##### General Product Approval

[Manufacturer Declaration](#)



[Miscellaneous](#)



[KC](#)

##### General Product Approval

For use in hazardous locations



[FM](#)



[FM](#)

[CCC-Ex](#)



##### For use in hazardous locations

##### Maritime application

[Type Examination Certificate](#)



[Miscellaneous](#)



##### Maritime application



[NK / Nippon Kaiji Kyokai](#)



[CCS \(China Classification Society\)](#)



##### Environment



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