

SIMATIC S7/PCS7 Digital input SM 321, 16 DI; 24 V DC, 1 x 40-pole, diagnostics-capable, for contacts (wired/ not wired), NAMUR encoder, 3/4-wire Bero, with chatter monitoring; Pulse extension, open-circuit detection Interface module IM 153-2 HF or IM 153-4 HF possible



Figure similar

| Supply voltage                                                  |        |
|-----------------------------------------------------------------|--------|
| Load voltage L+                                                 |        |
| • Rated value (DC)                                              | 24 V   |
| Input current                                                   |        |
| from load voltage L+ (without load), max.                       | 100 mA |
| from backplane bus 5 V DC, max.                                 | 100 mA |
| Power loss                                                      |        |
| Power loss, typ.                                                | 11 W   |
| Time stamping                                                   |        |
| Accuracy                                                        | 1 ms   |
| Digital inputs                                                  |        |
| Number of digital inputs                                        | 16     |
| Input characteristic curve in accordance with IEC 61131, type 1 | No     |
| Input characteristic curve in accordance with IEC 61131, type 2 | Yes    |

|                                                |                                                                                                           |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Number of simultaneously controllable inputs   |                                                                                                           |
| horizontal installation                        |                                                                                                           |
| — up to 60 °C, max.                            | 16                                                                                                        |
| vertical installation                          |                                                                                                           |
| — up to 40 °C, max.                            | 16                                                                                                        |
| Input voltage                                  |                                                                                                           |
| • Type of input voltage                        | DC                                                                                                        |
| • Rated value (DC)                             | 8.2 V; 8.2V/18V                                                                                           |
| Input current                                  |                                                                                                           |
| • for signal "1", typ.                         | 10 mA; for NAMUR: 2.1 to 7 mA, for 10k ohm/47k ohm contact: typical 10mA, for 4 wire BEROs: typical 10 mA |
| Input delay (for rated value of input voltage) |                                                                                                           |
| for standard inputs                            |                                                                                                           |
| — at "0" to "1", min.                          | 2.5 ms                                                                                                    |
| — at "0" to "1", max.                          | 3.5 ms                                                                                                    |
| — at "1" to "0", min.                          | 2.5 ms                                                                                                    |
| — at "1" to "0", max.                          | 3.5 ms                                                                                                    |
| Cable length                                   |                                                                                                           |
| • shielded, max.                               | 400 m; max. 200m with 8.2 V sensor, max. 400m with 18 V sensor                                            |
| • unshielded, max.                             | Not permitted                                                                                             |
| Interrupts/diagnostics/status information      |                                                                                                           |
| Diagnostics function                           | Yes                                                                                                       |
| Alarms                                         |                                                                                                           |
| • Diagnostic alarm                             | Yes                                                                                                       |
| • Hardware interrupt                           | Yes                                                                                                       |
| Diagnostic messages                            |                                                                                                           |
| • Wire-break                                   | Yes                                                                                                       |
| Diagnostics indication LED                     |                                                                                                           |
| • Group error SF (red)                         | Yes                                                                                                       |
| • Status indicator digital input (green)       | Yes                                                                                                       |
| Potential separation                           |                                                                                                           |
| Potential separation digital inputs            |                                                                                                           |
| • between the channels                         | Yes                                                                                                       |
| • between the channels, in groups of           | 8                                                                                                         |
| • between the channels and backplane bus       | Yes                                                                                                       |
| Isolation                                      |                                                                                                           |
| Isolation tested with                          | 600 V DC                                                                                                  |
| Ambient conditions                             |                                                                                                           |
| Ambient temperature during operation           |                                                                                                           |
| • min.                                         | 0 °C                                                                                                      |

- max.
- At cold restart, min.

60 °C  
0 °C

#### Connection method

required front connector 1x 40-pin

#### Dimensions

|        |        |
|--------|--------|
| Width  | 40 mm  |
| Height | 125 mm |
| Depth  | 120 mm |

**last modified:** 08/16/2019