



SIMATIC S7/PCS7,  
SM 321 DIGITAL INPUT MODULE, 16 DI,  
24V DC, 1 X 40 PIN,  
CAPABLE OF DIAGNOSTICS,  
FOR CONTACTS (CONNECTED/ UNCONNECTED),  
NAMUR SENSOR, 3/4-WIRE-BERO,  
WITH FLUTTER MONITORING,  
PULSE LENGTHENING,  
WIRE BREAK DETECTION,  
IM153-2 INTERFACE MOD. REQUIRED

| 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 |
| from supply voltage L+, max.                                    | 4 A    |
| Power loss                                                      |        |
| Power loss, typ.                                                | 11 W   |
| Time stamping                                                   |        |
| Time stamping, supported                                        | Yes    |
| 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                    |        |

|                                                       |                                                                 |
|-------------------------------------------------------|-----------------------------------------------------------------|
| <b>horizontal installation</b>                        |                                                                 |
| up to 60 °C, max.                                     | 16                                                              |
| <b>vertical installation</b>                          |                                                                 |
| up to 40 °C, max.                                     | 16                                                              |
| <b>Input voltage</b>                                  |                                                                 |
| Type of input voltage                                 | DC                                                              |
| Rated value, DC                                       | 8.2 V ; 8.2V/18V                                                |
| <b>Input current</b>                                  |                                                                 |
| for signal "1", typ.                                  | 10 mA                                                           |
| <b>Input delay (for rated value of input voltage)</b> |                                                                 |
| <b>for standard inputs</b>                            |                                                                 |
| at "0" to "1", min.                                   | 2.5 ms                                                          |
| at "0" to "1", max.                                   | 3.5 ms                                                          |
| <b>Cable length</b>                                   |                                                                 |
| Cable length, shielded, max.                          | 400 m ; max. 200m with 8.2 V sensor, max. 400m with 18 V sensor |
| Cable length unshielded, max.                         | Not permitted                                                   |
| <b>Interrupts/diagnostics/status information</b>      |                                                                 |
| <b>Alarms</b>                                         |                                                                 |
| Alarms                                                | Yes                                                             |
| Diagnostic alarm                                      | Yes                                                             |
| Hardware interrupt                                    | Yes                                                             |
| <b>Diagnostic messages</b>                            |                                                                 |
| Diagnostic functions                                  | Yes                                                             |
| Diagnostics                                           | Yes                                                             |
| <b>Diagnostics indication LED</b>                     |                                                                 |
| Group error SF (red)                                  | Yes                                                             |
| Status indicator digital input (green)                | Yes                                                             |
| <b>Galvanic isolation</b>                             |                                                                 |
| <b>Galvanic isolation digital inputs</b>              |                                                                 |
| between the channels                                  | Yes                                                             |
| between the channels, in groups of                    | 8                                                               |
| between the channels and the backplane bus            | Yes                                                             |
| <b>Permissible potential difference</b>               |                                                                 |
| between different circuits                            | 75 VDC / 60 VAC                                                 |
| <b>Isolation</b>                                      |                                                                 |
| Isolation tested with                                 | 600 V DC                                                        |
| <b>Ambient conditions</b>                             |                                                                 |
| <b>Operating temperature</b>                          |                                                                 |

|                                    |              |
|------------------------------------|--------------|
| <b>min.</b>                        | 0 °C         |
| <b>max.</b>                        | 60 °C        |
| <b>Extended ambient conditions</b> |              |
| <b>at cold restart, minimum</b>    | 0 °C         |
| <b>Connection method</b>           |              |
| <b>required front connector</b>    | 1x 40-pin    |
| <b>Dimensions</b>                  |              |
| <b>Width</b>                       | 40 mm        |
| <b>Height</b>                      | 125 mm       |
| <b>Depth</b>                       | 120 mm       |
| Status                             | Jul 29, 2014 |