

Data sheet

SM 153, PB-DP slave (153-4PH00)

Technical data

| | |
|------------------|---------------------|
| Order no. | 153-4PH00 |
| Type | SM 153, PB-DP slave |

General information

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|----------|--|
| Note | - |
| Features | PROFIBUS-DP slave 8 inputs 8 outputs |

Technical data power supply

| | |
|---|------------------|
| Power supply (rated value) | DC 24 V |
| Power supply (permitted range) | DC 20.4...28.8 V |
| Reverse polarity protection | yes |
| Current consumption (no-load operation) | - |
| Current consumption (rated value) | 55 mA |

Technical data digital inputs

| | |
|---|---------------------|
| Number of inputs | 8 (16) |
| Cable length, shielded | 1000 m |
| Cable length, unshielded | 600 m |
| Rated load voltage | DC 24 V |
| Reverse polarity protection of rated load voltage | - |
| Current consumption from load voltage L+ (without load) | - |
| Rated value | DC 24 V |
| Input voltage for signal "0" | DC 0...5 V |
| Input voltage for signal "1" | DC 15...28.8 V |
| Input voltage hysteresis | - |
| Frequency range | - |
| Input resistance | - |
| Input current for signal "1" | 7 mA |
| Connection of Two-Wire-BEROs possible | yes |
| Max. permissible BERO quiescent current | 1.5 mA |
| Input delay of "0" to "1" | 3 ms |
| Input delay of "1" to "0" | 3 ms |
| Number of simultaneously utilizable inputs horizontal configuration | 8 |
| Number of simultaneously utilizable inputs vertical configuration | 8 |
| Input characteristic curve | IEC 61131-2, type 1 |
| Initial data size | 1 Byte |

Technical data digital outputs

| | |
|--------------------------|---------|
| Number of outputs | 8 (4) |
| Cable length, shielded | 1000 m |
| Cable length, unshielded | 600 m |
| Rated load voltage | DC 24 V |

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|---|-----------------|
| Reverse polarity protection of rated load voltage | - |
| Current consumption from load voltage L+ (without load) | 50 mA |
| Total current per group, horizontal configuration, 40°C | 4 A |
| Total current per group, horizontal configuration, 60°C | 2 A |
| Total current per group, vertical configuration | 2 A |
| Output voltage signal "1" at min. current | L+ (-0.8 V) |
| Output voltage signal "1" at max. current | L+ (-1.5 V) |
| Output current at signal "1", rated value | 1 A |
| Output delay of "0" to "1" | 150 µs |
| Output delay of "1" to "0" | 100 µs |
| Minimum load current | - |
| Lamp load | 5 W |
| Parallel switching of outputs for redundant control of a load | not possible |
| Parallel switching of outputs for increased power | not possible |
| Actuation of digital input | yes |
| Switching frequency with resistive load | max. 1000 Hz |
| Switching frequency with inductive load | max. 0.5 Hz |
| Switching frequency on lamp load | max. 10 Hz |
| Internal limitation of inductive shut-off voltage | L+ (-52 V) |
| Short-circuit protection of output | yes, electronic |
| Trigger level | 1.5 A |
| Number of operating cycle of relay outputs | - |
| Switching capacity of contacts | - |
| Output data size | 1 Byte |

Status information, alarms, diagnostics

| | |
|----------------------------------|-----------------------|
| Status display | green LED per channel |
| Interrupts | no |
| Process alarm | no |
| Diagnostic interrupt | no |
| Diagnostic functions | no |
| Diagnostics information read-out | possible |
| Supply voltage display | yes |
| Group error display | red SF LED |
| Channel error display | none |

Isolation

| | |
|---|----------|
| Between channels | - |
| Between channels of groups to | - |
| Between channels and backplane bus | - |
| Between channels and power supply | - |
| Max. potential difference between circuits | - |
| Max. potential difference between inputs (Ucm) | - |
| Max. potential difference between Mana and Mintern (Uiso) | - |
| Max. potential difference between inputs and Mana (Ucm) | - |
| Max. potential difference between inputs and Mintern (Uiso) | - |
| Max. potential difference between Mintern and outputs | - |
| Insulation tested with | DC 500 V |

Hardware configuration

| | |
|---------------------------------|---|
| Racks, max. | - |
| Modules per rack, max. | - |
| Number of digital modules, max. | - |
| Number of analog modules, max. | - |

Communication

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|------------------------------|--|
| Fieldbus | PROFIBUS-DP to EN 50170 |
| Type of interface | RS485 |
| Connector | Sub-D, 9-pin, female |
| Topology | Linear bus with bus termination at both ends |
| Electrically isolated | yes |
| Number of participants, max. | 125 |
| Node addresses | 1 - 99 |
| Transmission speed, min. | 9.6 kbit/s |
| Transmission speed, max. | 12 Mbit/s |
| Address range inputs, max. | 1 Byte |
| Address range outputs, max. | 1 Byte |
| Number of TxPDOs, max. | - |
| Number of RxPDOs, max. | - |

Datasizes

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|------------------|-------|
| Input bytes | 1 |
| Output bytes | 1 |
| Parameter bytes | 7 + 5 |
| Diagnostic bytes | 13 |

Housing

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| Material | PPE / PA 6.6 |
| Mounting | Profile rail 35 mm |

Mechanical data

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|--------------------|--------------------------|
| Dimensions (WxHxD) | 101.6 mm x 76 mm x 48 mm |
| Weight | 220 g |

Environmental conditions

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|-----------------------|-----------------|
| Operating temperature | 0 °C to 60 °C |
| Storage temperature | -25 °C to 70 °C |

Certifications

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| UL certification | yes |
| KC certification | - |