

DEA 115, Digital Input/Output Modules



Digital input/output module

The digital input modules from the Systeme Helmholtz GmbH convert the external binary signals from the process into the internal signal level of the programmable controllers. The digital output modules convert the internal signal level of the programmable controllers into the external binary signal level required for the process. Green LEDs indicate the signal status of the inputs and outputs.

The signal lines are connected to the corresponding front connectors. You can identify them on the labeling strip next to the LEDs.

You can remove and insert the modules and front connectors during operation without damaging the modules.

Ordering Data

| | Order-No. |
|--|---------------|
| DEA 115 32 inputs (DC 24 V) non isolated | 700-420-7LA11 |
| 32 inputs (DC 24 V) isolated | 700-430-7LA12 |
| DEA 115 32 output (DC 24 V; 0.7 A) non isolated | 700-441-7LA12 |
| 32 output (DC 24 V; 0.7 A) isolated | 700-451-7LA12 |

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| Technical Data | | | 700-420-7LA11 | 700-430-7LA12 |
|---|----------------------|--|---|---|
| Number of inputs | | | 32 | 32 |
| Isolation - in groups of | | | no - | yes 8 |
| Input voltage (nom. value) - for "0" signal - for "1" signal | | | DC 24 V -33 to +5 V +13 to +33 V | DC 24 V -33 to +5 V +13 to +33 V |
| Input current - for "1" signal | typ. | | 8.9 mA | 8.5 mA |
| Permiss. quiescent current for 2-wire Bero | min. | | 1.5 mA | 1.5 mA |
| Delay time ¹⁾ - turn on - turn off | typ. typ. | | 2.3 ms 2.5 ms | 2.3 ms 4.6 ms |
| Cable length - unshielded - shielded | max. max. | | 600 m 1000 m | 600 m 1000 m |
| Front connector | | | 46-way | 46-way |
| | | | 700-441-7LA12 | 700-451-7LA12 |
| Number of outputs | | | 32 | 32 |
| Isolation - in groups of | | | no - | yes (optocoupler) 8 |
| Supply voltage V_P, V_S - nominal value - ripple V_{pp} - permissible range (with ripple) - value at $t < 10$ ms | max. max. | | DC 24 V 3.6 V 20 to 30 V 50 V | DC 24 V 3.6 V 20 to 30 V 50 V |
| Output current for "1" signal - nominal value - permissible range - transient peak load ($t=10$ ms, $d=20$ %) | max. | | 0.5 A 5 mA to 0.7 A 1.5 A | 0.5 A 5 mA to 0.7 A 1.5 A |
| Lamp load (at nominal voltage) | max. | | 16.5 W | 16.5 W |
| Inductive load | max. | | 0.2 H (at 0.7 A) 0.4 H (at 0.5 A) 1.1 H (at 0.3 A) | 0.2 H (at 0.7 A) 0.4 H (at 0.5 A) 1.1 H (at 0.3 A) |
| Overload protection | | | electronic | electronic |
| Voltage induced on circuit interruption limited (internally) to | typ. | | $V_P - 50$ V | $V_P - 50$ V |
| Switching frequency for - resistive load - lamps - inductive load | max. max. max. | | 1 kHz 100 Hz 2 Hz (at 0.3 A/0.7 H) 1 Hz (at 0.5 A/0.4 H) | 1 kHz 100 Hz 2 Hz (at 0.3 A/0.7 H) 1 Hz (at 0.5 A/0.4 H) |
| Slope times - turn on - turn off | typ. typ. | | 0.13 ms 0.05 ms | 0.2 ms 0.06 ms |
| Total load capability - without fan at 55°C - without fan at 35°C - with fan at 55°C | | | 60 % 100% 100% | 60 % 100% 100% |
| Residual current for "0" signal | max. | | 300 μ A | 300 μ A |
| Signal level of the outputs - for "0" signal - for "1" signal | max. min. | | +2 V $V_P - 1,0$ V | +2 V $V_P - 1,0$ V |

1) Other delay times on request