

DEA 135, Digital Input/Output Modules



Digital input 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.

Red LEDs indicate an overload or short-circuit of outputs. The alarm output H carries a "1" signal if an overload or short-circuit has been detected on an output. It is possible to connect up to 16 alarm outputs in parallel.

With an enable input F it is possible to suppress the output of signals. It is possible to deactivate this function by removing a jumper on the module.

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

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

Ordering Data

	Order-No.
DEA 135 32 input (DC 24 V) non-isolated	700-420-4UA14
32 input (DC 24 V) isolated	700-430-4UA14
DEA 135 32 output (DC 24 V; 0.7 A) non-isolated	700-441-4UA14
32 output (DC 24 V; 0.7 A) isolated	700-451-4UA14
Front Connectors 497 for DEA 135 for crimp connection without spring contacts single width, 42-way	700-497-4UA12
for screw connection single width, 42-way	700-497-4UB31

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Technical Data			
		700-420-4UA14	700-430-4UA14
Number of inputs		32	32
Isolation - in groups of		no -	yes 32 ¹⁾
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 +7 V +13 to +33 V
Permiss. quiescent current for 2-wire Bero	min.	1.5 mA	2.5 mA
Delay time ²⁾ - turn on - turn off		typ. typ.	2.3 ms 2.3 ms 5.2 ms
Cable length - unshielded - shielded		max. max.	600 m 1000 m 600 m 1000 m
Enable input F Input voltage (nom. value) - for enable - for disable Input current of the F input		typ.	DC 24 V +13 to +33 V -33 to +5 V 5 mA DC 24 V +13 to +33 V -33 to +5 V 5 mA
		700-441-4UA14	700-451-4UA14
Number of outputs		32	32
Isolation - in groups of		no -	yes (optocoupler) 32 ³⁾
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 $U_P - 50$ 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)
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 $U_P - 1.0$ V +2 V $U_P - 1.0$ V

1) Other groupings on request

2) Other delay times on request

3) Insulation in 2 groups of 16 on request