Mixed I/O Module

HE800DIQ712
12/24 Vdc In, Positive/Negative Logic
3A Relay Out

1 SPECIFICATIONS

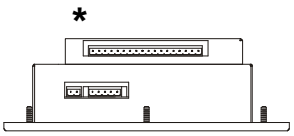
INPUT	DIQ712		DIQ712
Inputs per Module	14 isolated	Minimum ON Current	1mA
Commons per Module	3	Maximum OFF Current	200µA
Input Voltage Range	12/24VDC	OFF to ON Response	1ms.
Peak Voltage	35VDC Max.	ON to OFF Response	1ms.
ON Voltage level	Min. 9VDC	Isolation (Channel to Common)	500VDC
OFF Voltage level	Max. 3VDC		
Input Impedance	> 10K Ohms		

OUTPUT	DIQ712		DIQ712
Outputs per Module	10 relay	Maximum Inrush Current	3A
Commons per Module	2	Minimum Load	None
Output Type	Relay	OFF to ON Response	6ms. Typical
Coil Voltage	18-30VDC	ON to OFF Response	.3ms. Typical
Contact Voltage	250VAC / 30VDC Max.	Isolation (Channel to Channel and Channel to Common)	2500VDC
ON Voltage drop	0.2V Max.	Maximum Leakage Current	5µA
Maximum Load current (resistive) per output	3A		

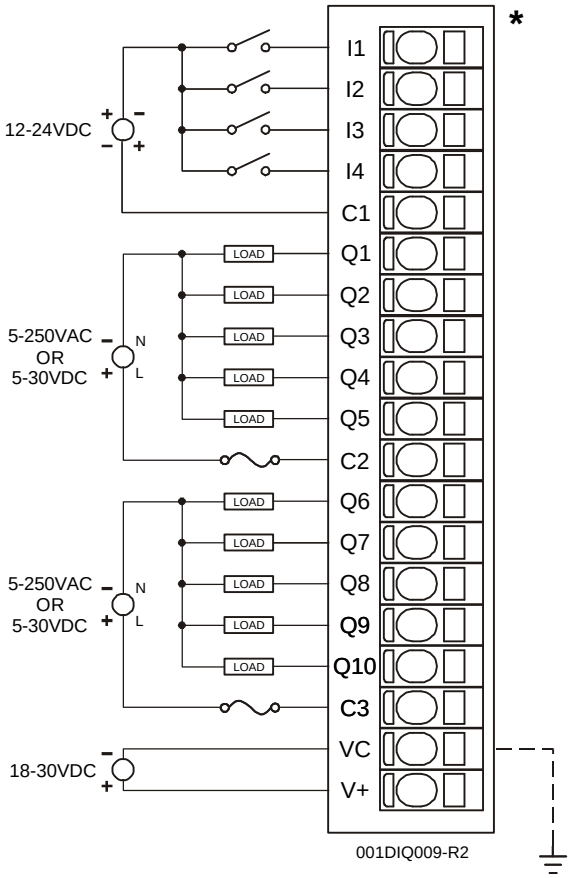
General Specifications			
Required Power (Steady State)	0.19W(8mA @ 24VDC)	CE	Refer to MAN0005
Required Power (Inrush)	Negligible	UL	Refer to SUP0259
Relative Humidity	5 to 95% Non-condensing	Terminal Type	Spring Clamp, Removable
Operating Temperature	0° to 60° Celsius	Weight	9.5 oz. (256 g)

2 WIRING

2.1 Input / Output Connector Wiring



OCS Bottom View – Shows Corresponding I/O Pin



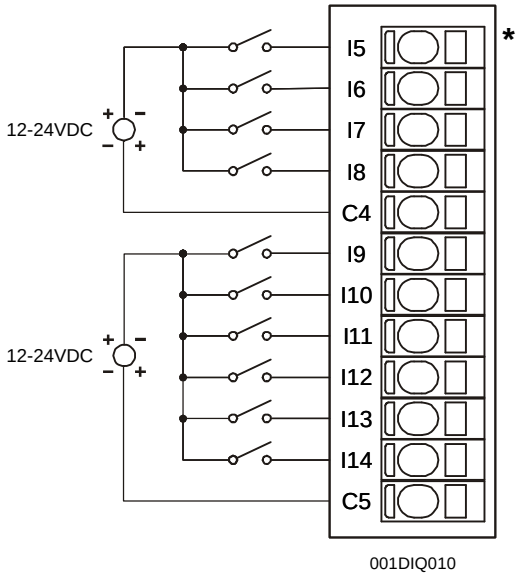
Pin	Signal
	DIQ712
I1	Input 1
I2	Input 2
I3	Input 3
I4	Input 4
C1	Common for Inputs1,2,3,4
Q1	Output 1
Q2	Output 2
Q3	Output 3
Q4	Output 4
Q5	Output 5
C2	Common for Outputs 1,2,3,4,5
Q6	Output 6
Q7	Output 7
Q8	Output 8
Q9	Output 9
Q10	Output 10
C3	Common for Outputs 6,7,8,9,10
VC	Relay Coil power common, connected to bus common internally.
V+	Relay Coil Power, +18 to +30VDC, 90mA max.

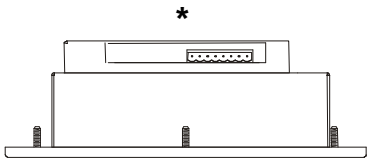
Warning: To protect the module and associated wiring from load faults, use external fuse (**10 A**) as shown. **This warning affects DIQ712, Revisions C or higher.**

Warning: Connecting high voltage to any I/O pin may cause high voltage to appear at other I/O pins.

Warning: Wiring the line side of the AC source to loads connected to outputs 1 through 10 and the neutral side of the AC source to the output common(s) would create a Negative Logic condition, which may be considered an unsafe practice.

2.2 Input Connector Wiring

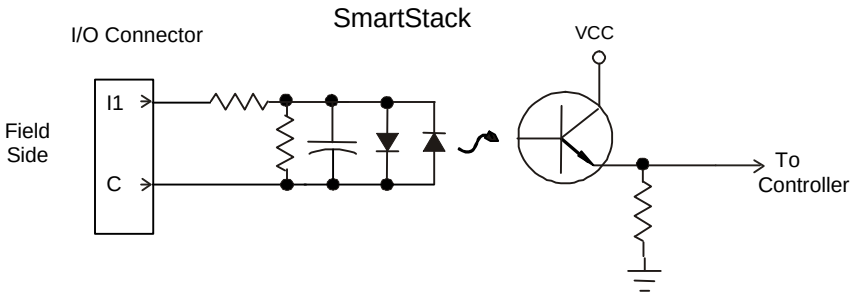


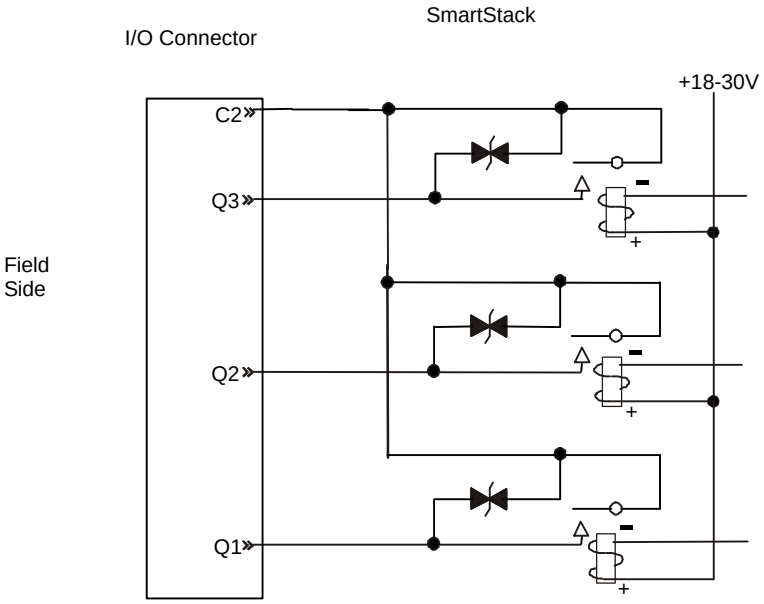


OCS Top View – Shows Corresponding I/O Pin

Pin	Signal
	DIQ712
I5	Input 5
I6	Input 6
I7	Input 7
I8	Input 8
C4	Common for Inputs 5,6,7,8
I9	Input 9
I10	Input 10
I11	Input 11
I12	Input 12
I13	Input 13
I14	Input 14
C5	Common for Inputs 9,10,11,12,13,14

3 INTERNAL CIRCUIT SCHEMATIC





Specification for transient voltage suppressors (transorbs) used on output circuitry is 400VDC bi-directional 400 watts.

Note: Electro-mechanical relays comply with IEC1131-2.

4 CONFIGURATION

Note: The status of the I/O can be monitored in Cscape Software.

Preliminary configuration procedures that are applicable to all SmartStack™ Modules are located in the Control Station Hardware Manual (MAN0227).

Selecting the **I/O Map** tab provides information about the I/O registers, which are assigned to a specific SmartStack™ Module and where the module is located in the point map. The I/O Map is determined by the model number and location within the SmartStack™. The I/O Map is not edited by the user.

The **Module Setup** is used in applications where it is necessary to change the default states of the outputs when the controller (e.g., OCS100) enters idle/stop mode. The default turns the outputs OFF when the controller enters idle/stop mode. By selecting the Module Setup tab, each output can be set to either turn ON, turn OFF or to hold the last state. Generally, most applications use the default settings.

Warning: The default turns the outputs OFF when the controller enters idle/stop mode. To avoid injury of personnel or damages to equipment, exercise extreme caution when changing the default setting using the **Module Setup** tab.

5 INSTALLATION / SAFETY

Warning: Previous versions of this product provided internal fuses on the output circuits (relay contacts). Due to CE Low Voltage Directive (LVD) marking requirements, these fuses have been removed and replaced with solid wire. Therefore, it is now the responsibility of the user of this equipment to ensure that adequate fusing is installed *externally* on each relay output circuit.

Warning: Remove power from the OCS controller, CAN port, and any peripheral equipment connected to this local system before adding or replacing this or any module.

a. All applicable codes and standards are to be followed in the installation of this product.
b. Use the following wire type or equivalent: Belden 8917, 16 AWG or larger.

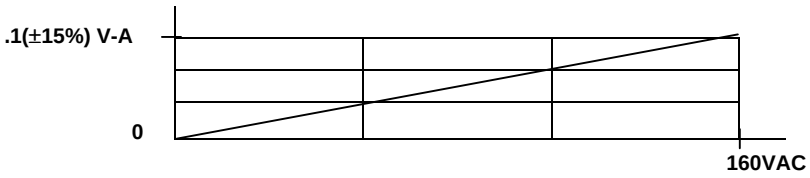
For detailed installation information, refer to Chapter Two in the Control Station Hardware Manual (MAN0227). A handy checklist is provided that covers panel box layout requirements and minimum clearances.

Warning: Consult user documentation.

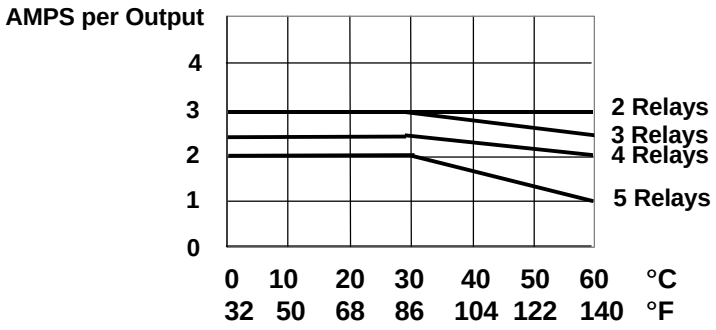
Warning: Electrical Shock Hazard.

6 INPUT / OUTPUT CHARACTERISTICS

Digital Input Chart



Derating Output Chart
(Each group of 5)



Typical Relay Life (DIQ712)				
Voltage (Resistive)	**No Load**	**Load Current**		
		1 Amp	**2 Amp**	**3 Amp**
30VDC	20 Million	600K	250K	125K
125VAC		750K	300K	150K
250VAC		500K	200K	100K

7 TECHNICAL SUPPORT

For assistance, contact Technical Support at the following locations:

North America:
(317) 916-4274 or visit our website at www.heapg.com.

Europe:
(+) 353-21-4321-266