



**Mixed DC I/O Module**  
**HE500OCS042 / HE500OCS072**  
**HE500RCS072**  
**(16 Input Channels)**  
**12/24 Vdc In, Positive/Negative Logic**  
**24Vdc Out, Negative Logic**  
**(12 Output Channels)**

**Mini OCS/RCS**

**1 SPECIFICATIONS**

INPUT			
Inputs per Module	16	Input Characteristics	Bidirectional
Commons per Module	3	Input Impedance	10K Ohms
Input Voltage Range	12-24VDC	Minimum ON Current	1mA
Peak Voltage	35VDC Max.	Maximum OFF Current	200µA
Isolation (Channel to Bus)	500VDC	OFF to ON Response	1ms.
ON Voltage Level	9VDC	ON to OFF Response	1ms.
OFF Voltage Level	3VDC		

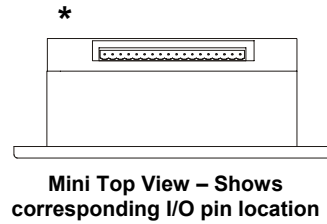
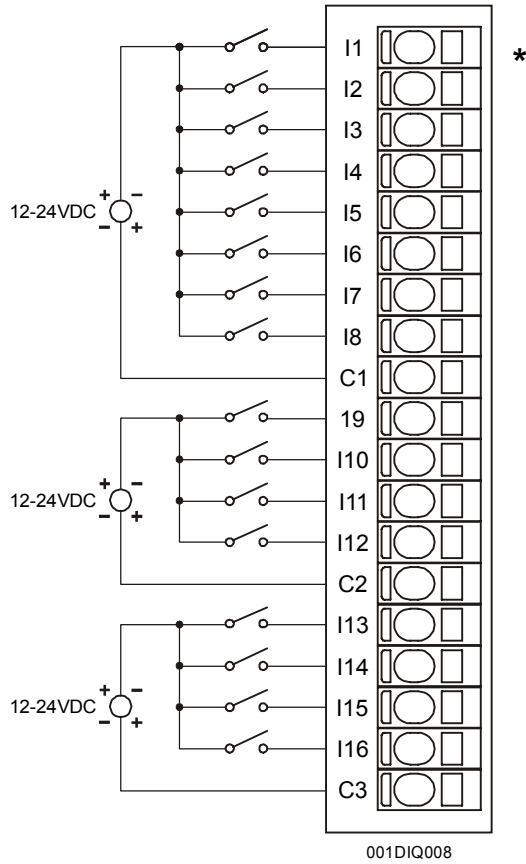
OUTPUT			
Outputs per Module	12	Output Protection	Short Circuit
Commons per Module	1	Maximum Leakage Current	100µA
Operating Voltage	5 - 35VDC	Maximum Inrush Current	600mA. per channel
Output Type	Sinking / 10K Pull-Up	Minimum Load	None
Peak Voltage	35VDC Max.	OFF to ON Response	1ms.
Output Characteristics	Current Sinking	ON to OFF Response	1ms.
ON Voltage Level	1.5VDC Max.		
Maximum Load Current per channel	0.5A Max.		

General Specifications			
Required Power (Steady State)	4.8W (200mA @ 24VDC)	Operating Temperature	0° to 50° Celsius
Required Power (Inrush)	900mA max. @ 24VDC for 1ms.	Terminal Type	Spring Clamp, Removable
Relative Humidity	5 to 95% Non-condensing	Weight	9.5 oz. (270 g)
CE	See Compliance Table at <a href="http://www.heapg.com/Support/compliance.htm">http://www.heapg.com/Support/compliance.htm</a>		
UL	Operating Temperature Code T4A; See Compliance Table at <a href="http://www.heapg.com/Support/compliance.htm">http://www.heapg.com/Support/compliance.htm</a>		

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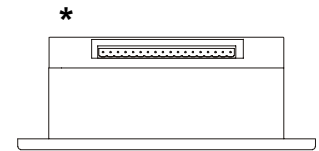
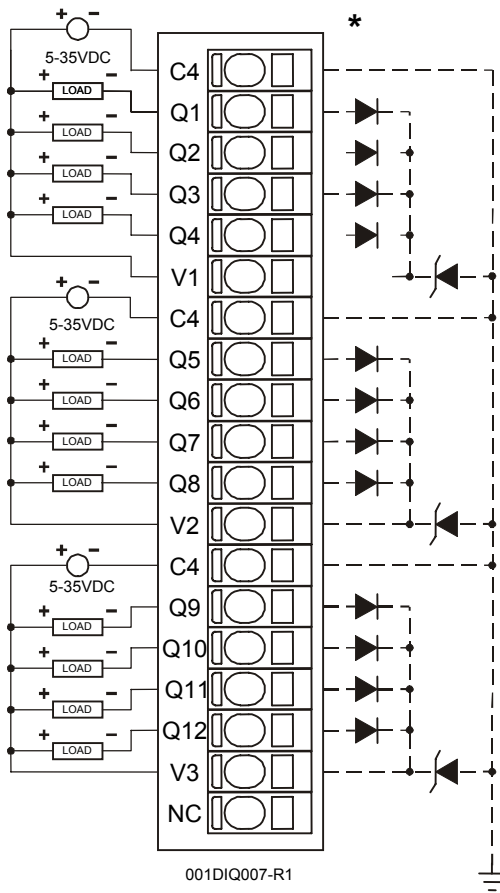
## 2 WIRING

### 2.1 Input Wiring



Pin	Signal
I1	Input 1
I2	Input 2
I3	Input 3
I4	Input 4
I5	Input 5
I6	Input 6
I7	Input 7
I8	Input 8
C1	Common 1
I9	Input 9
I10	Input 10
I11	Input 11
I12	Input 12
C2	Common 2
I13	Input 13
I14	Input 14
I15	Input 15
I16	Input 16
C3	Common 3

2.2 Output Wiring

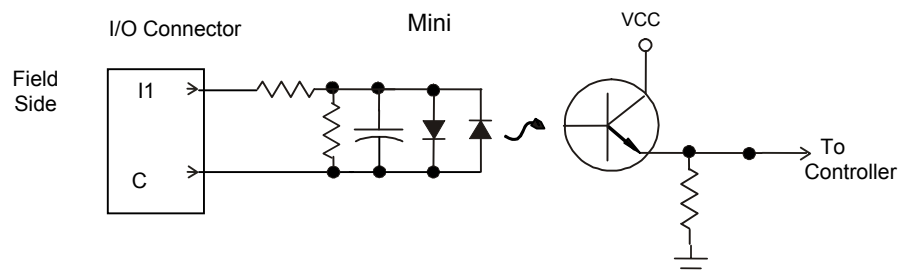


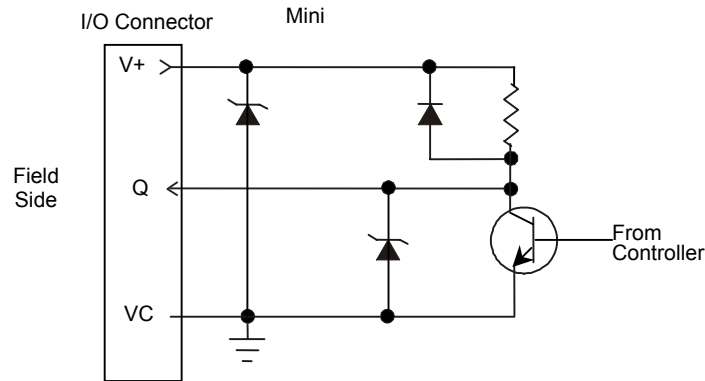
Mini Bottom View – Shows corresponding I/O pin location

Pin	Signal
C4	Common 4
Q1	Output 1
Q2	Output 2
Q3	Output 3
Q4	Output 4
V1	Load Power 1
C4	Common 4
Q5	Output 5
Q6	Output 6
Q7	Output 7
Q8	Output 8
V2	Load Power 2
C4	Common 4
Q9	Output 9
Q10	Output 10
Q11	Output 11
Q12	Output 12
V3	Load Power 3
NC	No Connection

**Warning:** This is a negative logic device. Use of it may be considered an unsafe practice under CE directives.

3 INTERNAL CIRCUIT SCHEMATIC





Specification for transient voltage suppressors (transorbs) used on output circuitry is 36VDC, 300 watts.

## 4 CONFIGURATION

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

Selecting the **I/O Map** tab provides information about the I/O registers. 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.

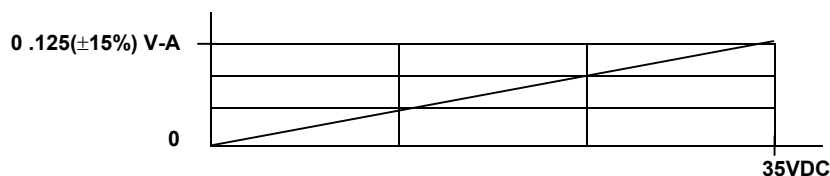
## 5 INSTALLATION / SAFETY

- 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.

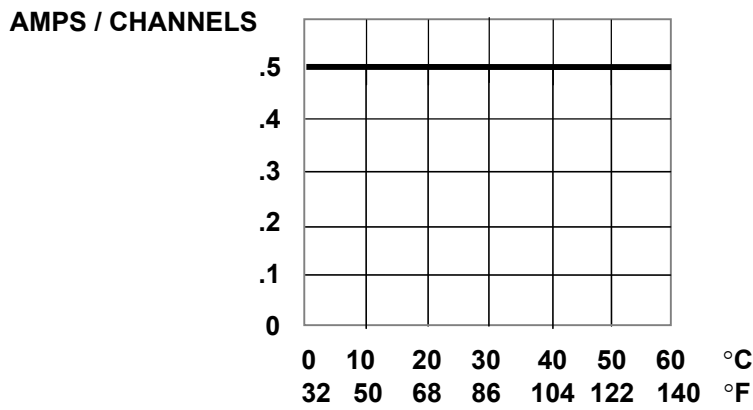
For detailed installation information, refer to Mini Hardware Manual. A handy checklist is provided that covers panel box layout requirements and minimum clearances.

## 6 INPUT / OUTPUT CHARACTERISTICS

**Digital Input Chart**



### Derating Output Chart



## 7 TECHNICAL ASSISTANCE

For assistance, contact Technical Support at the following locations.  
Please visit our website for manual updates.

**North America:**  
(317) 916-4274  
[www.heapg.com](http://www.heapg.com)

**Europe:**  
(+) 353-21-4321-266  
[www.horner-apg.com](http://www.horner-apg.com)

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