



# AC Input /AC Output Module

*Mini OCS/RCS*

**HE500OCS038 / HE500OCS068  
120 / 240 VAC In, Positive Logic  
80-250 VAC Out, Positive Logic**

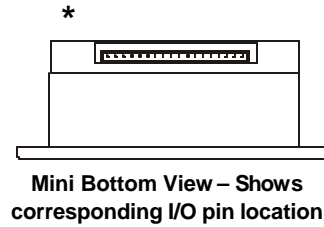
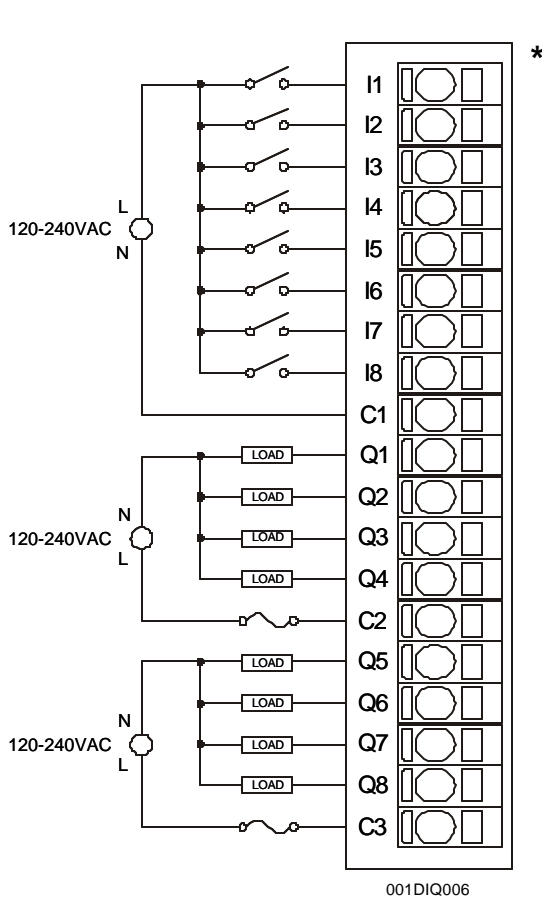
## 1 SPECIFICATIONS

INPUT			
Inputs per Module	8	Input Impedance	0.01 $\mu$ F +10K
Commons per Module	1	Isolation (Channel to Common)	1500VDC
Input Voltage Range	120 – 240 VAC	Minimum ON Current	1ms.
Peak Voltage	275 VAC	Maximum OFF Current	1ms.
AC Frequency	60Hz	OFF to ON Response	50ms.
ON Voltage Level	70VAC Min.	ON to OFF Response	50ms.
OFF Voltage level	30VAC Max.	Status Indicator	8 LEDs
OUTPUT			
Outputs per Module	8	Maximum Load Current per output	2A Max.
Commons per Module	2	Maximum Leakage Current	600 $\mu$ A Max.
Operating voltage	250VAC Max.	Maximum Inrush Current	4A
Output Type	Triac	OFF to ON Response	10ms. Max.
ON Voltage level	1.6V Max.	ON to OFF Response	10ms. Max.
Isolation (Channel to Common)	1500VDC	Status Indicator	8

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. (256 g)
CE	See Compliance Table at <a href="http://www.heapg.com/Support/compliance.htm">http://www.heapg.com/Support/compliance.htm</a>		
UL			

**MAN0409-01**

## 2 WIRING



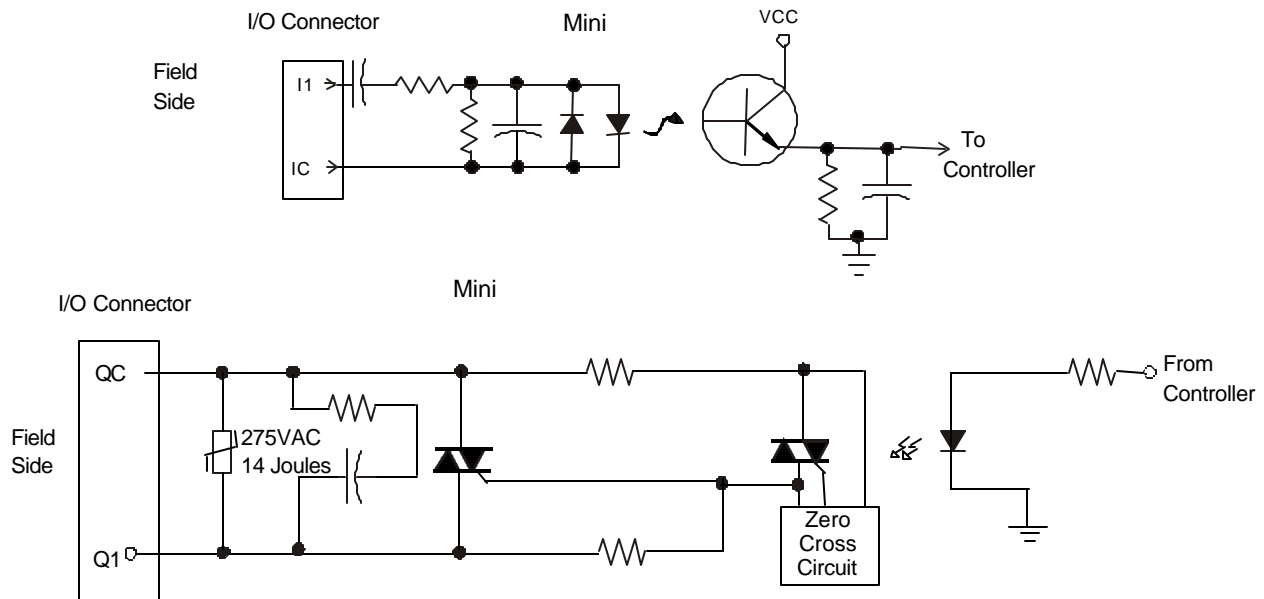
Pins	Signal
I1	Input 1
I2	Input 2
I3	Input 3
I4	Input 4
I5	Input 5
I6	Input 6
I7	Input 7
I8	Input 8
IC	Input Common Isolated
Q1	Output 1
Q2	Output 2
Q3	Output 3
Q4	Output 4
C2	Output Common 2 Isolated
Q5	Output 5
Q6	Output 6
Q7	Output 7
Q8	Output 8
C3	Output Common 3 Isolated

**Warning:** To protect the module and associated wiring from load faults, use external fuse (5 A) as shown. **This warning affects OCS038 / OCS068, Revisions E 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 8 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.

### 3 INTERNAL CIRCUIT SCHEMATICS



Specification for transient voltage suppressors (MOVs) used on output circuitry is 275VAC, 14 Joules.

### 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

**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.

- 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.

When found on the product, the following symbols specify:



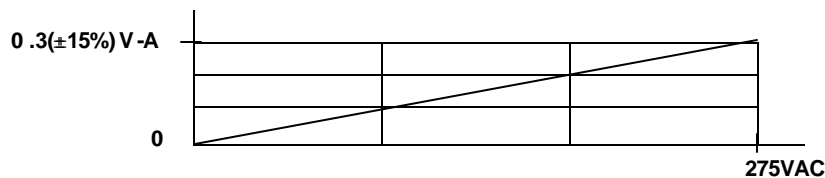
**Warning:** Consult user documentation.



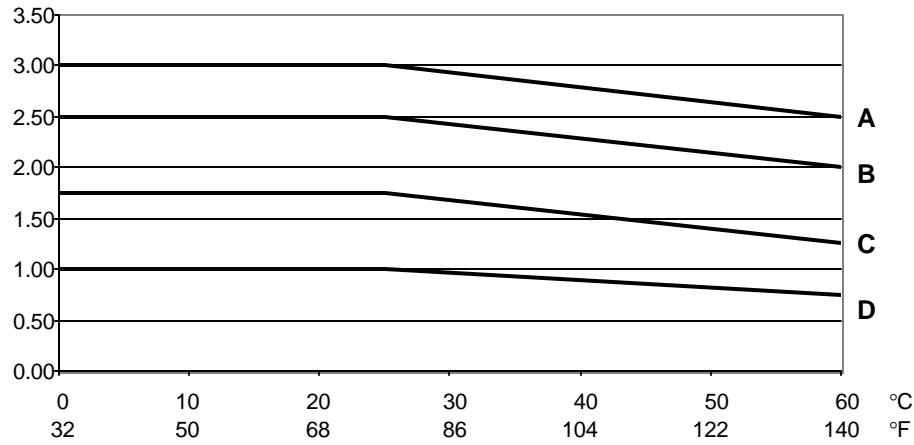
**Warning:** Electrical Shock Hazard.

## 6 INPUT / OUTPUT CHARACTERISTICS

Digital Input Chart



Derating Chart



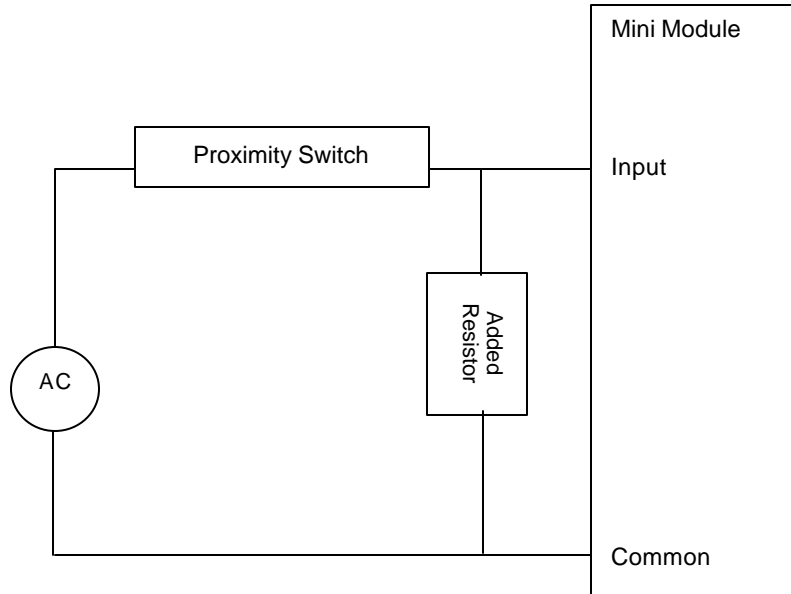
Derating Legend	
<b>A</b>	1 Channel ON
<b>B</b>	2 Channels ON <ul style="list-style-type: none"> <li>▪ One even channel and one odd channel <u>or</u></li> <li>▪ One low channel (1-4) and one high channel (5-8).</li> </ul>
<b>C</b>	4 Channels ON <ul style="list-style-type: none"> <li>▪ One channel (1 or 3)</li> <li>▪ One channel (2 or 4)</li> <li>▪ One channel (5 or 7)</li> <li>▪ One channel (6 or 8)</li> </ul>
<b>D</b>	8 Channels ON

For maximum output power, loads are to be distributed between even and odd channels, and also, between low (1-4) and high (5-8) channels. Allow for ample air circulation around the module. Current levels typically need to be reduced by 0.5 amp for restricted air flow.

The following applies to applications in which two-wire proximity switches are used as sensors for discreet AC inputs. For these applications, an external resistor *or* resistor/capacitor combination must be added to each input as shown below. The resistor provides a small current to power the proximity switch. The resistor is not required for other types of proximity switches.

120VAC: 15K ohm, 2W resistor *or* 0.22 $\mu$ F metallized film capacitor rated for 120VAC service in series with 470 ohm, 0.5W resistor

240VAC: 15K ohm, 10W resistor *or* 0.22 $\mu$ F metallized film capacitor rated for 240VAC service in series with 470 ohm, 0.5W resistor



## 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)