

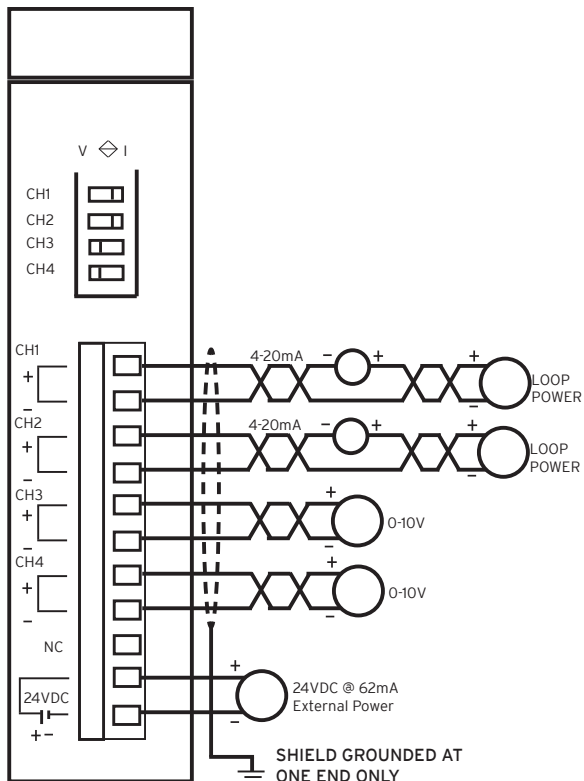
# SMARTRAIL DATASHEET

## HE599ADC170 0-10V, 4-20mA Analog Input Module - 12-Bit Resolution

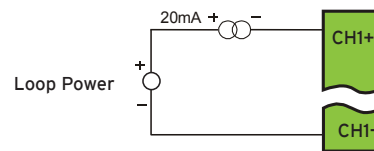
### 1 TECHNICAL SPECIFICATIONS

SPECIFICATIONS			
ADC170			
Number of Channels	4	Optional Spring Clamp Terminal	<b>HE599TRM011, 11-posn</b>
Input Ranges	0-10V, 4-20mA, 0-20mA	Terminal Torque Rating	0.22 to 0.25 N-m 1.95 to 2.21 in-lbs
Absolute Max. Inputs	+/- 15V, +/-30mA	Accepted Wire Size	16-28AWG (use copper)
Resolution	12-Bit (2.5mV, 4µA, 5µA)	Wire Stripping Length	7mm
Input Impedance	1MΩ (Voltage), 250Ω (Current)	Storage Temperature	-25°C to 70°C
Accuracy	< +/- 0.5%	Operating Temperature	0°C to 55°C
Isolation	Photocoupler (Input/Power)	Relative Humidity	5 to 95% Non-condensing
Conversion Time	1.5ms/ch	Dimensions W x H x D	20mm x 90mm x 60mm 0.79" x 3.54" x 2.36"
Backplane Power Consumed	50mA @ 5V	Weight	67g (2.4 oz.)
External Power Required	62mA @ 24V (+/-10%) <b>CLASS 2 POWER SUPPLY ONLY</b>	Certifications (CE)	
Terminal Type	M2 Screw Type, Removable 11-posn	USA: <a href="https://hornerautomation.com/certifications/">https://hornerautomation.com/certifications/</a> Europe: <a href="https://www.hornerautomation.eu/support/certifications-2/">https://www.hornerautomation.eu/support/certifications-2/</a>	

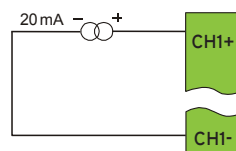
### 2 WIRING - I/O



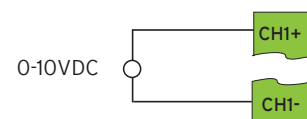
20mA Analog In - Not Self Powered



20mA Analog In - Self Powered



0-10VDC IN



Terminal Block Tightening Torque: 2.0 in-lb (0.22 N-m)

Wire range for terminal blocks: 16-28 AWG copper conductors, solid or stranded

### 3 DIAGNOSTIC LED INDICATORS

Diagnostic LED	Meaning
RUN	ON = Normal Operation
	FLASH = I/O Error
	OFF = No Power or I/O Error

### 4 CSCAPE CONFIGURATION

The SmartRail ADC170 features a dip switch on the front of the unit for selecting voltage (0-10V) or current (4-20mA or 0-20mA) on a per channel basis. In addition to the physical dip switch, Cscape (9.1 or later) must be used for software configuration as well. The following parameters are configurable in Cscape for the ADC170:

Cscape Configuration Data - Selectable per Channel	
Parameter	Selections
Channel Enable	Enable
	Disable
Data Type	4 - 20mA
	0 - 20mA
	0 -10V
Data Range	0 - 4000
	-2000 to +2000
	0 to 1000 (4 - 20mA type)
	0 to 1000 (0-20mA or 0-10V type)

### 5 SAFETY

This equipment is suitable for use in Class I, Division 2, Groups A, B, C and D or Non-hazardous locations only.

**WARNING - EXPLOSION HAZARD** - Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous  
**AVERTISSEMENT - RISQUE D'EXPLOSION** -Ne débranchez pas l'équipement tant que l'alimentation n'a pas été coupée ou que la zone n'est pas dangereuse.

**WARNING - EXPLOSION HAZARD** - Substitution of any component may impair suitability for Class I, Division 2  
**AVERTISSEMENT - RISQUE D'EXPLOSION** -Le remplacement de tout composant peut nuire à la compatibilité avec la classe I, division 2

**WARNING - POSSIBLE EQUIPMENT DAMAGE** - Remove power from the I/O Base and any peripheral equipment connected to this local system before adding or replacing this or any module.

**AVERTISSEMENT - DOMMAGES POSSIBLES À L'ÉQUIPEMENT** - Coupez l'alimentation de la base d'E / S et de tout équipement périphérique connecté à ce système local avant d'ajouter ou de remplacer ce module ou tout autre module.

- a. All applicable codes and standards should be followed in the installation of this product.
- b. Shielded, twisted-pair wiring should be used for best performance.
- c. Shields should be grounded at one end only, preferably at the end providing the best noise shunting.
- d. Use the following wire type or equivalent: Belden 8441.

For detailed installation and a handy checklist that covers panel box layout requirements and minimum clearances, refer to the hardware manual of the controller you are using.

### 6 PART NUMBER

The global part number is HE559ADC170.

### 7 TECHNICAL SUPPORT

For assistance and datasheet updates, contact Technical Support at the following locations:

**North America**  
 +1 (317) 916-4274  
[www.hornerautomation.com](http://www.hornerautomation.com)  
[techsppt@heapg.com](mailto:techsppt@heapg.com)

**Europe**  
 +353 (21) 4321-266  
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[technical.support@horner-apg.com](mailto:technical.support@horner-apg.com)