



Series 5

Analog Current Input

Local CM (CM-1-335)

This document specifies the CM-1-335 isolated Analog Input (AI) Conditioning Module (CM). The CM accepts a 4 to 20 mA input and provides a 1 to 5 Vdc output signal. The module supports a loop power option for 2-wire transmitters, and an external power option for 4-wire transmitters. Open wire detection (downscale within 5 ms) is supported by dropping the output voltage below one volt forcing an analog input failure alarm.

Refer to the following data sheets for additional information.

- *Vanguard Control System Hardware Specifications* [DS5001]
- *Vanguard Environmental Specifications* [DS5002]
- *Reliant Control System Hardware Specifications* [DS5051]
- *Reliant Environmental Specifications* [DS5052]

Table 1 CM-1-335 Specifications

Part Number	CM-1-335
Nominal Operating Range	4 to 20 mA (measurable range: 0 to 22 mA)
Input Resistance	300 Ω nominal
Output Voltage	+1 to +5 V: output in nominal operating range Below 1 V and above 5 V: out of nominal operating range
Normal Operating Limit	Common Mode: up to 250 Vdc both pins to IRG
Certified Safety Limit	Common Mode: 240 Vrms
Destructive Limit	Common Mode: 1500 Vrms Differential: 240 Vrms / 35 Vdc
Protection	Short circuit current limited between field signal pins
Logic Voltage	18 to 35 Vdc @ 60 mA loop power or 25 mA w/o loop power
Dimensions	2.1" high x 0.60" wide x 1.7" deep (5.3 x 1.5 x 4.3 cm)

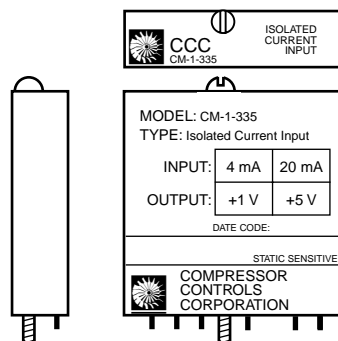


Figure 1 CM-1-335 Analog Input Module

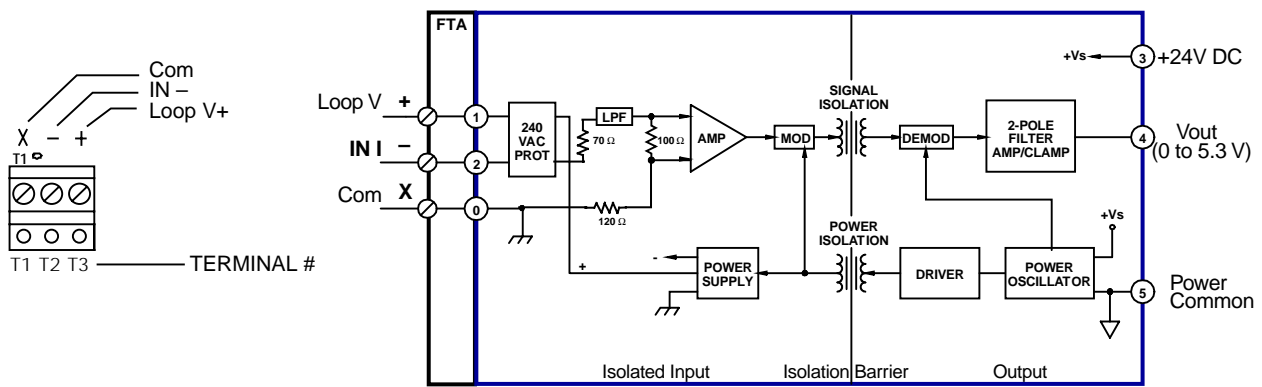


Figure 2 Analog Input CM Wiring Block Diagram

Note: Remove or Open CJC Jumper for this module. Do not use the CM-1-335 conditioning module with non-isolated barriers.

Note: The input resistance of this module can not be measured using an ohm meter. When the module is not powered, the resistance reading will read open. Use a voltage/current method to measure the input resistance.

Note: If two inputs are wired in series and one module is not powered, the circuit will not function correctly.

Local conditioning modules can be installed in the following assemblies. See the following data sheets for additional information.

- *Vanguard Simplex Analog I/OFTA* [DS5203]
- *Vanguard Duplex Analog I/OFTA* [DS5205]
- *Vanguard High-Density Analog Input FTA* [DS5132]
- *Reliant SC Controller* [DS5152]

Caution: Do not wire to the loop power T3 terminal (Loop V+) if the circuit is externally powered. This will cause the loop to operate intermittently.

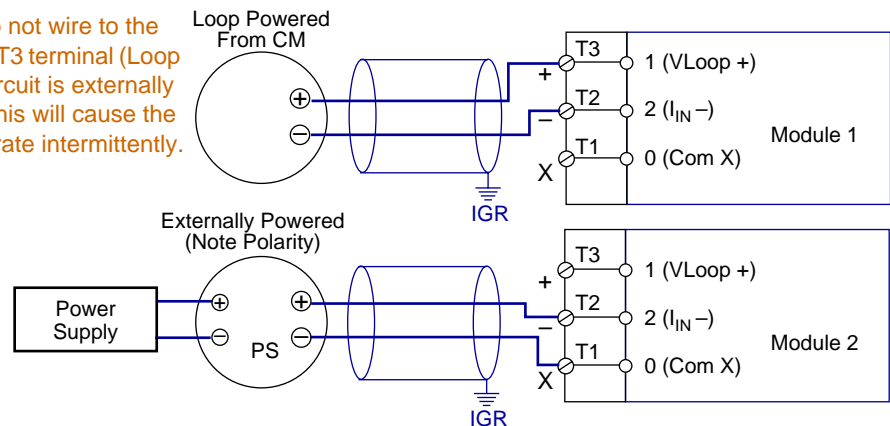


Figure 3 CM-1-335 Wiring Block Diagram