Chameleon RS-485 Network Interface Module (NIM-1)

High-Performance Programmable Controllers for Extreme Environments

The Chameleon RS-485 Network Interface Module (NIM-1) offers high-speed communications using FairNET, Modbus ASCII (master or slave), Modbus RTU (master or slave), Custom ASCII, or Custom Binary protocols. FairNET provides both deterministic and non-deterministic messaging, automatic bus mediation, and a robust master-slave architecture.

You can network up to 256 NIM-1 modules and achieve data rates as high as 1 Mbit per second. NIM-1 units have built-in biasing and termination circuitry for easy and reliable network configuration.

As with all Chameleon modules, NIM-1 units are hot-swappable: should the need arise to replace one, you can simply swap the front panel (with attached processing board) and the unit is back online—there is no need to shut off the power and there is no need to detach connectors. They also provide unequaled ruggedness. They are specifically designed for sustained operation in severe environments, including those characterized by extreme shock, vibration, electro-magnetic interference, temperature, and/or humidity. Its fully-sealed enclosure (sealing end-caps not pictured) ensures long-lasting operation in the grimiest settings.

ENVIRONMENTAL CHARACTERISTICS

Operating Ambient Temperature Range	-40°C to 65°C
Storage/Transport Ambient Temperature Range	-40°C to 85°C
High Impact Shock	MIL-STD-901D
Mechanical Vibration	MIL-STD-167B
Electro-Magnetic Interference	MIL-STD-461E
Facial/Housing Protection	NEMA 1,2,4,4X,5,6,12,12K,13
Operating Humidity	100% RH, Condensing

ELECTRICAL CHARACTERISTICS

Maximum Power Consumption	2.8W
Network Capacity	One module can drive 32 standard RS-485 unit loads or 256 NIM-1 modules
Network Capacity	256 NIM modules can be driven by a standard RS485 transceiver
Max Baud Rate	1 Mbit / Second
Electrostatic Discharge Protection	+/- 15 KV Human Body model
Signal Electrical Isolation from Control Circuitry	1500 VDC
Cable Fault Protection	No spurious signals on receiver inputs if network cable is open or shorted.
Biasing	On-board 470Ω high and low
Termination	On-board 110Ω
Supported Cable Diameters / Wire Gauges	Two glands 0.24”-0.47” and two glands 0.16”-0.31” / 16-28 AWG

OPERATOR INTERFACE

Status Readout	One three-color (red/yellow/green) LED Indicator
IrDA Wireless Interface	115KBPS SIR

PHYSICAL CHARACTERISTICS

Weight	1.35 pounds
Front Panel Dimensions	2.5” W x 6” L
Enclosure Height	3” H

OTHER FEATURES

- Half Duplex Opto-isolated RS485
- Termination and biasing switch-enabled from wiring hub
- Slew rate limited for EMI suppression
- Supports hot swapping

Fairmount Automation, Inc.
4621 West Chester Pike
Newtown Square, PA 19073
(610) 356-9840
www.FairmountAutomation.com

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