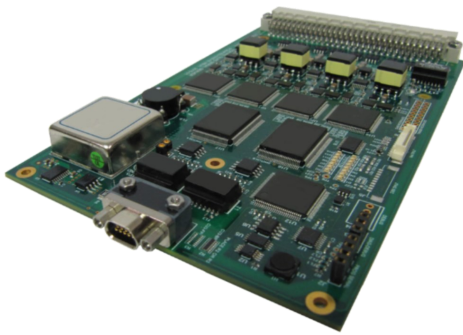


# Subsea Qualified 4-20 mA Gateway

Model 922-420

Focal Technologies Corporation, a Moog Inc. company, has over 30 years of expertise in supplying standard and custom marine products for harsh environment applications and is a leading manufacturer of high performance and high quality multiplexers. The Model 922-420 is part of Focal's Subsea Oilfield Communications (SOC) product line and provides a gateway for eight (8) SIIS level 1 (4-20 mA) channels. It supports advanced diagnostics, redundancy protocol (< 3s switchover), and is ISO 13628-6 qualified.



The Model 922-420 provides an advanced SIIS Level 1 gateway to a SIIS level 3 network, and is ideally suited to interface with modern control systems. It has been designed and qualified specifically for permanent subsea installation and is highly fault tolerant by using protection and redundant circuitry.

Advanced diagnostics provide real time health monitoring of the system and include optical SFP information, temperature, voltage, humidity, Ethernet link status, and Ethernet switch configuration. The model 922-420 uses a common unified software interface, like all of Focal's SOC products, making integration faster and easier.

Optical communication performance can be extended by using Focal's subsea qualified fiber-optic SFP modules. Options are available supporting tiebacks or step outs of up to 200 km.

## Features

- 8 isolated SIIS level 1 (4-20 mA) channels
- 1-port SIIS level 3 (100 Base-T(X) Ethernet) switch
- Qualified per ISO 13628-6 / API 17F
- MTBF > 200,000 hours at +40 C
- Advanced diagnostics and configuration using Modbus TCP
- DHCP-configured IP address with static IP backup
- 3U Eurocard form-factor with options for front panel or heat sink
- Failsafe remote firmware update

## Benefits

- Proven SIIS level 1 & level 3 solution for subsea communications
- Reduces cost by using standard configurations
- Simplifies integration with unified software interface
- Supports copper or fiber-optic connections with qualified SFP modules

## Applications

- Subsea communications
- Long distance step out or tie back
- Interface to devices (e.g. sensors, valves, pumps)
- Subsea Electronics Modules (SEM) and other subsea distribution nodes
- Upgrades available for legacy communication systems

**PRELIMINARY**

**FOCAL™**

# Specifications

SIIS Level 1 (4-20 mA)	
No. Channels	8 (8 on 21-pin Micro-D)
Sampling	1 ms
Resolution	±0.25% F.S.
Protection	Over-voltage up to ±25V; ESD ±15 kV air, ±8 kV contact
Isolation	250 Vrms
SIIS Level 3 (Optical & Copper Ethernet)	
No. Ports	Copper : 1 (1 on Front 9-pin Micro-D) Optical : 2 (2 on Front SFP Port)
Format	SIIS level 3, 10/100 Base-T(X)
Connectors	
Harness	1 x 21-pin Micro-D
Front	1 x 9-pin Micro-D 2 x SFP (optical port)
Power	
Consumption	SIIS-Medium, 5.5 W typical (6 W max.)
Voltage	+20 to +28 VDC, regulated
Current	0.2A (0.5 A max.)
Protection	ESD, EMI, over-voltage, reverse voltage, overcurrent (no fuses)
Management	
Ethernet Switch	Layer 2, Broadcast storm protection, rate limiting, flow control, 802.1q VLAN, DHCP, 802.1p port Priority, port mirroring
Diagnostics & Configuration	LED, Webserver, Modbus TCP / RTU, CLI, TELNET
Redundancy	Automatic, < 3 s
Firmware	Fail safe remote firmware update

Mechanical	
Dimensions	3U Eurocard, 160 mm x 100 mm x 4 HP
Mounting	Eurocard 3U rack or 4 x M2.5 hardware
Options	Front panel
Life Cycle	
Design Life	> 20 years @ +40 °C
MTBF	> 200,000 hrs @ +40 °C
Testing	Factory Acceptance Test (FAT) at min. & max. temperature
Options	Environmental Stress Screening, thermal or vibration
Environmental	
Temperature	-20 °C to +70 °C (operation) -40 °C to +85 °C (storage)
Humidity	5 % to 85 % RH, non-condensing
Vibration	5 g, per ISO13628-6 / API 17F
Shock	30 g, per ISO 13628-6/ API 17F
Qualification	ISO 13628-6 Q1/ API 17F
Options	8000 PSI rated

# PRELIMINARY

All specifications and information are subject to change without notice. Please contact Focal for the latest updates.