micronor sensors

FIBER OPTIC ENCODER EXTENDER SYSTEM

MR361-2 FO XMTR/RCVR Extender for SSI Absolute Encoders

MR360 SERIES

The MR361-2 series Fiber Optic Extenders allow conventional electronic-based SSI absolute encoders (optical or magnetic) to reach longer distances by converting the encoder's SSI Clock+Data signals to optical signals which can then be transmitted interference-free up to 2000 meters.

The system is made up of a MR361-2 fiber optic transmitter and a MR361-2 fiber optic receiver. The transmitter converts the electrical signals of a nornall SSI absolute encoder into a light signal by means of an optical fiber. The receiver module converts the optical signals back into electrical signals which connect to the Encoder SSI interface of a PLC, motor drive or other SSI device. A rotary switch on the front side of the module allows adjusting the SSI clock between 1 and 99 bits.

MR361-2
FO Transmitter/Receiver Modules

Typical Application
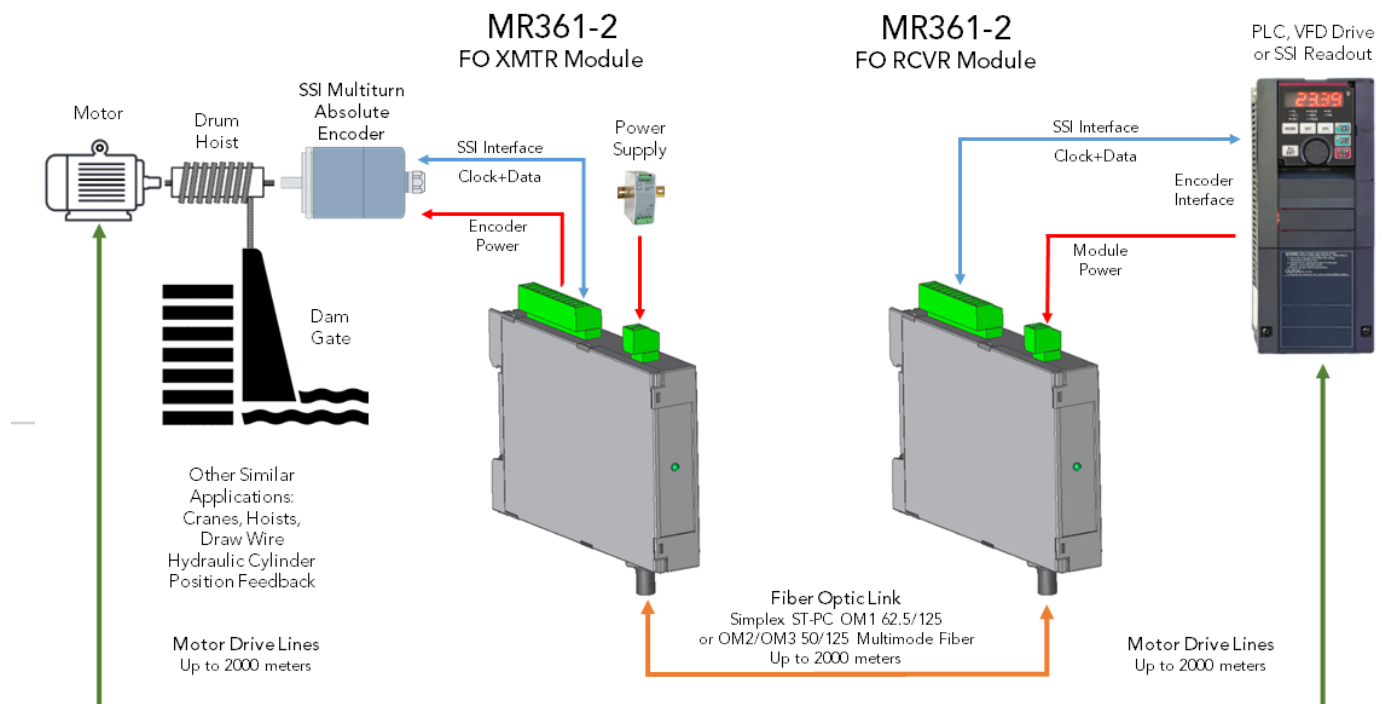
Features

- Simple means of extending encoder distance
- Provides interference free transmission up to 2000m
- Encoder signals pass safely through hazardous areas
- SSI Clock rate up to 1 MHz
- Status LED for monitoring of power supply and clock
- Compact DIN rail mount modules

Applications

- Applications sensitive to interference
- Process control & automation systems
- Cranes and hoist systems (drum or draw wire)
- Dam gate systems (drum or draw wire)
- Motor drives
- High voltage plants and rolling mills

Specifications

Encoder Compatibility	
SSI Interface	Clock, C+ and C-, RS422 Differential Line Driver Data, D+ and D-, RS422 Differential Line Driver NPN error input on Transmitter, Open-drain ouptut on Receiver
SSI Clock Frequency	Up to 1 MHz
SSI Data Format	front panel selectable, 1-99 bits SSI format
SSI Encoder Power Supply	10-30V DC or 5V DC ±5%, pass through from Power Supply Input
Electrical Interface	
Module Supply Voltage	10-30V DC or 5V DC ±5%, depending on model, <1W per module
Power Consumption	<1 W per module
Terminals	Max conductor diameter, 2.5mm^2 (AWG 23)
HD-Sub-D15	15 pin, Micro D-Sub Connector (also called VGA connector)
Optical Interface	**Inherently safe, optical radiation**
Optical Interface	ST-PC receptacle, located on bottom of module 62.5/125µm Graded Index Multimode Fiber, 0.275NA, type OM1, or 50/125µm Graded Index Multimode Fiber, 0.2NA, types OM2/OM3/OM4
Link Length	Lesser of 6 dB or 2000 meters (6560 ft)
Optical Transmission	850nm LED
Optical Synchronization	Indicated by LED on the receiver
Environmental Attributes	
Temperature/Humidity	-10°C to +70°C (+14°F to +158°F), 0%-95% RH (non-condensing
Ingress Protection	IP40, terminals IP20
Physical Attributes	
Housing Dimension	19.0 W x 110.8 L x 92.3mm W (0.75 x 4.36 x 3.63")
Unit Weight	70 g (2.5 oz)
Construction	Housing for DIN Rail mounting acc. to EN 50022

Specifications subject to change without notice

Terminal Clamp Model
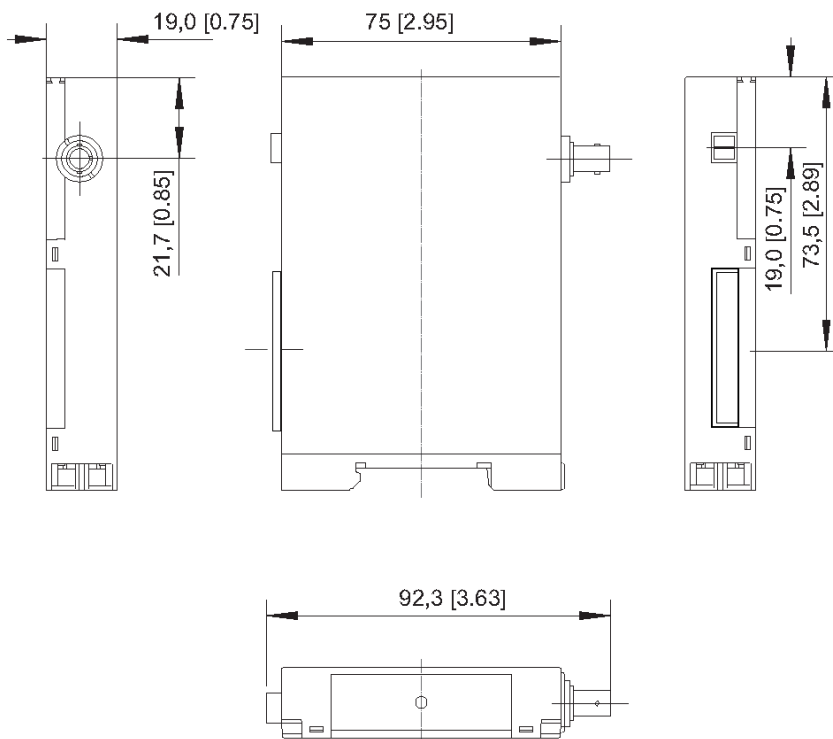
Phoenix 2C Plug	
Pin#	**Signal**
1	0V
2	+Vin
Phoenix 11C Plug **(Encoder In/Out)**	
1	0V-
2	+Vout
3	C+
4	C-
5	D+
6	D-
7	Input/ Output/ Error
8, 9, 10	-
11	GND-

Ordering Info

M R 3 6 1 - 2 - 0 - 0 - 0

Module Type
0   Transmitter Module
1   Receiver Module

Encoder Type
0   10-30V DC Operation
1   5V DC Operation

Connection Type
0   Standard terminal clamp
1   HD-Sub-D15 (VGA-type Micro DSub15) connector

Quick Ship Configurations:

MR361-2-0-0-0	Transmitter Module for 10-30V DC SSI Absolute Encoder, Wire Terminal Interface
MR361-2-1-0-0	Receiver Module for 10-30V DC SSI Absolute Encoder, Wire Terminal Interface

Plug-In Connector Model, DSUB9
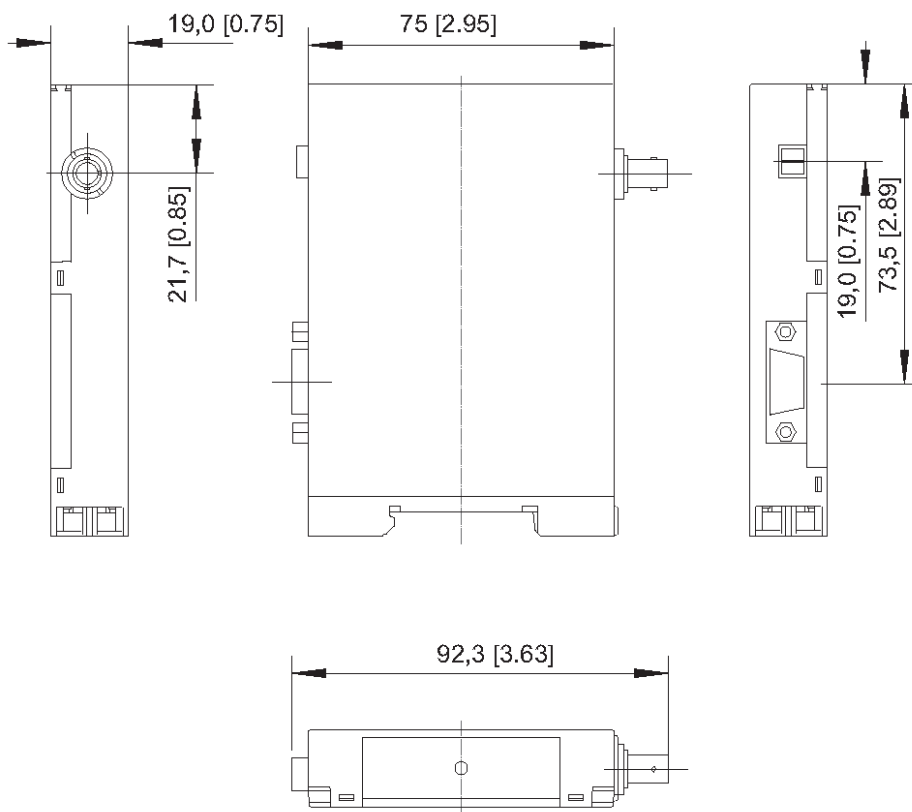
Phoenix 2C Plug	
Pin#	**Signal**
1	0V
2	+Vin
DSUB9 Plug (Encoder In/Out)	
1	0V-
2	+Vout
3	Output/ Error
4	D-
5	D+
6	C-
7	C+
8	-
9	GND