



PULSE LINKS

OPL-1C OPTICAL FIBER PULSE LINK

DESCRIPTION

The OPL-1C optical fiber pulse link system is a transmitter/receiver pair that uses fiber optic cable to send metering pulses over short to medium distances. The OPL-1C can receive and transmit pulses over distances up to approximately 1 mile using multimode fiber. The output is configured as either one Form C (KYZ), or as a two Form A (KY and KZ) channels depending on the transmitter's operating mode selection. This system makes it possible to quickly implement an optical pulse link with minimal effort and includes all power supplies, wetting voltages, isolation relays and connectors.



Each system consists of an OPT-1C transmitter and an OPR-1C receiver. The OPT-1C transmitter is designed to receive pulses from an electric meter's KYZ pulse initiator. Pulses are conditioned, encoded and sent by fiber optic cable to an OPR-1C receiver where the pulse information is decoded, validated and implemented into the correct pulse state. The OPT-1C transmitter and OPR-1C receiver must be paired and cannot be used independently. Fiber optic cable not included.

Bright red, yellow, and green LEDs monitor the system status on both the transmitter and receiver, and provides an easy and immediate visual system check without test equipment. A mode switch on the OPT-1C allows selection of 2Form A (2-wire) or 1Form C (3-wire) mode configuration.

The OPR-1C receiver also includes bright red and green LEDs to monitor the K-Y and K-Z output status. The dry contact output features a 1/10 amp solid-state relay for a no-bounce contact with internal MOV transient suppression circuitry to eliminate contact noise. Rapid pulse rates in excess of 10 pulses per second are possible.

Both the OPT-1C transmitter and OPR-1C receiver are packaged in the standard SSI large enclosure with mounting tabs, intended for mounting in another control equipment enclosure. Each unit weighs approximately 1 pound and can be mounted in any position. NEMA 4X and 3R rain-tight enclosures are available for both the transmitter and receiver units.

The standard OPL-1C is a multi-mode fiber system. Contact the factory for current pricing.

Applications include IEEE487 compliance for getting KYZ meter pulses from substation meters without copper wire; Longer distance pulse links where copper wire is not available or must be replaced.

INCLUDED IN SYSTEM

OPT-1C Transmitter, OPR-1C Receiver, ordered separately

FUNCTIONAL SUMMARY

	IN	OUT
#	2/1	2/1
TYPE	2 - 2Wire or 1 - 3Wire	2 - 2Wire or 1 - 3Wire
FORM	2A or 1C	2A or 1C

OPL-1C



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SPECIFICATIONS

ELECTRICAL

Power Input (OPT and OPR):	120, 208-277 VAC. Burden: 2 VA
OPT-1C Signal Input:	One Form C or two Form A (KYZ or KY/KZ) inputs from the sending device (electric meters' pulse outputs)
OPT-1C Output:	Optical Fiber Output to OPR-1C Receiver
OPR-1C Signal Input:	Optical Fiber Input from OPT-1C Transmitter
OPR-1C Output:	One Form C (3-Wire) or two Form A Solid State dry-contact outputs rated at 100mA at 120V, 800mW maximum, fused at .1A
Maximum Pulse Rate:	>10 Pulses per second (Form C), 5 pulses per second (Form A)
OPT-1C Input Debounce Time:	20ms
Sense Voltage:	+13VDC provided to the sending device(s)
Transmission Distance:	Up to approx. 1 mile(1500 meters) using standard multi-mode fiber, depending on fiber quality.
Response Time:	30 mS typical

MECHANICAL

Mounting:	Any position. Mounted on aluminum base plate with mounting tabs and keyhole mounting slots.
Size:	3.1" wide, 7.2" high, 1.5" deep
Weight:	2 pounds

TEMPERATURE

Temperature Range:	-38° C to +70° C, -36.4° F to +158° F
Humidity:	0 to 98% non-condensing

AVAILABLE OPTIONS

Input Voltages:	125VDC with DCS-1; 15-48VDC with DCS-2; contact factory for other voltages
Enclosures:	NEMA 4X raintight and dustproof enclosure available. 12.0" high, 10.0" wide, 6.0" deep NEMA 3R raintight enclosure available. 8" high, 8" wide, 4" deep

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