Department of consumer and corporate affairs / Ministère de la consommation et des corporations

STANDARDS BRANCH - DIRECTION DES NORMES

NOTICE OF APPROVAL
AVIS D'APPROBATION

E - 58

OTTAWA October 12, 1973

STRATREL TYPE "M-1" PULSE RECEIVER RELAY AND TYPE "PUM-1" POWER SUPPLY

M-1 Pulse Receiver Relay

Input	2-wire reversing polarity
Input Voltage	±10 volts min. ±25 volts max.
Input Pulse Duration	10 milliseconds to continuous
Max. Input Resistance①	10000 ohms
Transmitting Contact Current	5 milliamperes; 13.5 milliamperes with shorted transmission line
Output	SPDT Form C mercury wetted contacts
Output Contact Closure	random
Out Contact Capacity	100 VA max. 500 V, AC or DC max. 2A max.
Type of Relay	C.P. Clare HGS5005 bi-stable
Pulse Rate	50 per second maximum
Input/Output Pulse Ratio	1:1

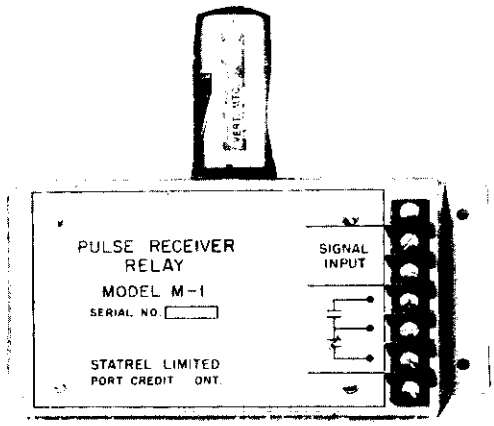
PUM-1 Power Supply

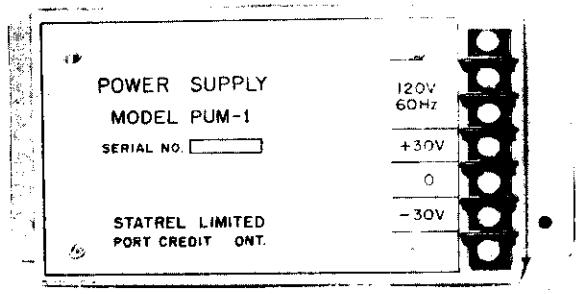
Nominal Output Voltage	+30 and -30 volts DC
Output under Load②	±25 volts and ±28 volts
Short Circuit Current	±13.5 milliamperes
Power Supply	120 volts 60Hz

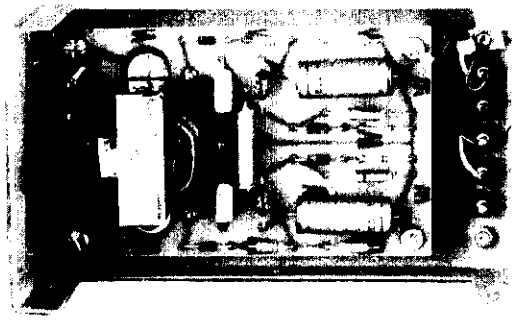
① Total resistance of 2-wire metallic transmission line.
② Pulse receiver relay with zero and 10000 ohms line resistance.

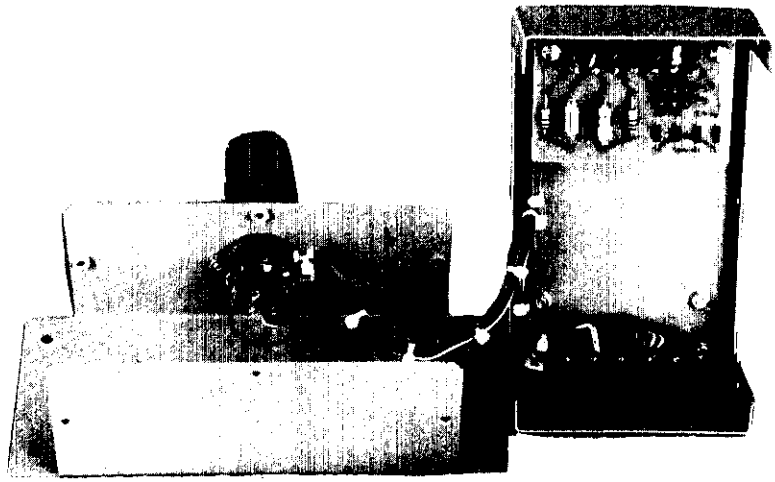
Description

The type M-1 pulse receiver relay and the type PUM-1 power supply are intended to be used together to make possible the transmission of pulses from a SPDT pulse initiator on a transmitting meter over a 2-wire transmission line to produce duplicate SPDT contact action at the receiving end for those devices requiring a 3-wire signal.


PULSE RECEIVER
RELAY
MODEL M-1
SERIAL NO.
STATREL LIMITED
PORT CREDIT ONT.
SIGNAL
INPUT


POWER SUPPLY
MODEL PUM-1
SERIAL NO.
STATREL LIMITED
PORT CREDIT ONT.
120V
60Hz
+30V
0
-30V





The relay that produces this SPDT contact action is bi-stable and remains in either of its states until it receives a signal of the opposite polarity which causes it to change to its other state with a corresponding contact closure.

The initial position of the relay is random depending on the polarity of the signal and upon which contact on the transmitting meter happened to be closed.

A break or a short in the transmission line will not cause the relay to change its state and produce extra pulses.

The type PUM-1 power supply produces +30 and -30 volts DC with respect to a common terminal.

The common terminal is connected to the transmission line and the +30 volt and -30 volt terminals are connected to the "Y" and "Z" terminals on the transmitting meter. The "K" terminal on the transmitting meter is connected to the other side of the transmission line. These connections are shown in the schematic wiring diagram on page 4.

The power supply is to be placed adjacent to the transmitting meter but the pulse receiver may be at any distance provided the line resistance does not exceed 10000 ohms.

The type M-1 pulse receiver relay may be used with any type PUM-1 power supply.

The screws holding the two parts of the cases together are cross-drilled for utility sealing wires.

Provision is also made for preventing unauthorized relay removal by means of a metal ring fitted over the relay with provision for a utility sealing wire.

The pulse receiver relay requires verification which may be done by connecting it in accordance with the schematic on page 4 and connecting counters to the output relay terminals.

Only sufficient input pulses to establish that the system is operational are required.

The illustration does not show the relay sealing ring.

Approval granted to

Statrel Limited,
Port Credit, Ontario.

G. E. Anderson
(for) Chief, Standards Laboratory,
Standards Branch.

W. J. S. Fraser
W.J.S. Fraser,
Chief, Electricity & Gas Division,
Standards Branch.

Ref: GL 1145-57/S688-171(B)
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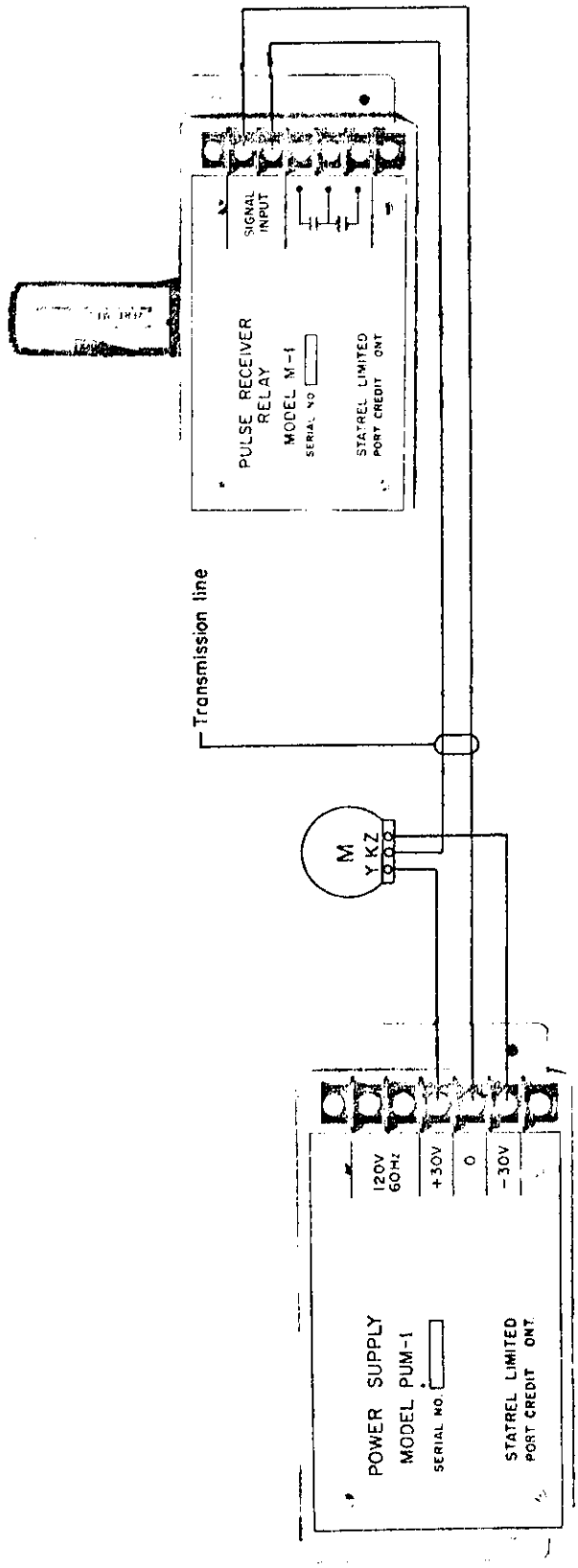
PULSE RECEIVER
RELAY
MODEL M-1
SERIAL NO
SIGNAL INPUT
STATREL LIMITED
PORT CREDIT ONT
Transmission line
M
YKZ
POWER SUPPLY
MODEL PUM-1
SERIAL NO.
120V 60Hz
+30V
0
-30V
STATREL LIMITED
PORT CREDIT ONT