



**NOTICE OF APPROVAL
AVIS D'APPROBATION**

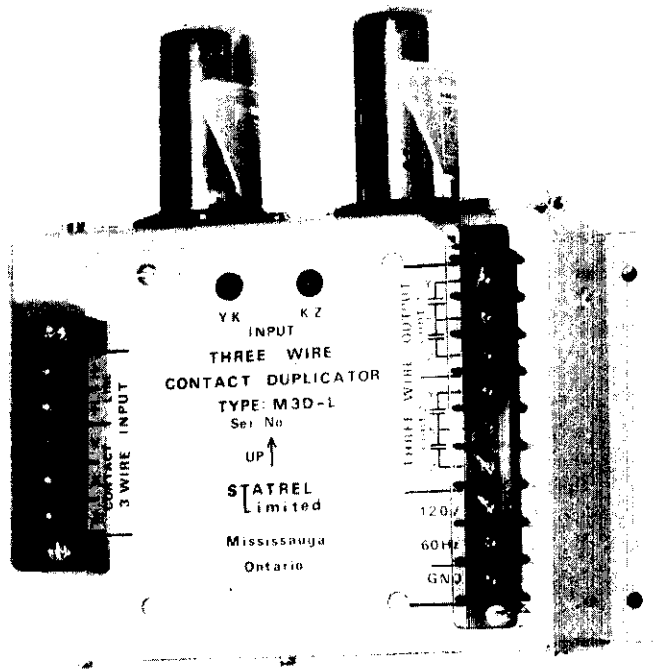
E-159

Ottawa, January 4, 1978

STATREL TYPES M3D AND M3D-L THREE-WIRE CONTACT DUPLICATORS

Input Signal:	M3D:	Contact input	SPDT (3-wire) Dry Contact
		Contact lead resistance	1000 ohms max.
		Recommended maximum distance between initiator and M3D	250 feet
	M3D-L:	Either dry contact or alternating DC voltage input	
		Contact input	SPDT (3-wire) Dry Contact
		Contact lead resistance	1000 ohms max.
		Recommended maximum distance between initiator and M3D-L	250 feet
		Alternating DC voltage Operation Level	±8 Volts dc min. ±50 Volts dc max.
		Transmission line loop resistance	10,000 ohms max.
		Insulation withstand voltage (Signal input to case)	2000 Vac (1 minute)

Output Contacts	Form	Bi-stable, form "C"
	Number	2
	Type	Mercury wetted
	Relay	C.P. Clare HGS 5005
	Rating (resistive load)	500 Volts dc or ac max. 2 amperes max. 100 VA max.
	Life Expectancy	Several billion operations (contact protection provided)
	Insulation withstand voltage	
	Output contacts to case	
	(contact 1, KYZ shorted together)	1000 Vac (1 minute)
	(contact 2, KYZ shorted together)	1000 Vac (1 minute)



Output contact 1 to Output contact 2 (KYZ of each contact shorted together)	1000 Vac (1 minute)
Input /Output pulse ratio	1:1
Voltage applied to input contacts	12 Vdc
Power supply	115V, 60Hz, ±10%, 3.5VA
Operating Temperature range	-20 ⁰ C to +55 ⁰ C
Pulse rate	5 per second max.
Input pulse indication	2 x light emitting diodes
Housing	Metal case
Mounting	Vertical surface (within ±15 ⁰ of vertical)

Description

The M3D or M3D-L Contact Duplicator accepts an input from one set of contacts and provides a duplicate output so that two recording devices may be operated in different locations.

The type M3D accepts a 2-wire SPDT dry contact input only whereas the type M3D-L accepts either a 3-wire SPDT dry contact or an alternating polarity dc voltage input, depending upon which set of input terminals are used. It is not permissible to accept both types of input simultaneously in a totalizing configuration.

Two red light emitting diodes on the front of the case marked "YK" and "KZ" correspond to their respective input contacts, signifying which set is closed at any given time.

The closed side of each output relay contact at any given time will depend upon which side of the input contact closed prior to the time of consideration. The contacts between output terminals "CONT.1 Y and K" and "CONT. 2 Y and K" will close following closure of input contact "YK" and will remain closed until such time as input contact "KZ" closes. Conversely, the contacts between output terminals "CONT.1 K And Z" and "CONT. 2 K and Z" will close following the closure of input contact "KZ" and will remain closed until input contact "YK" closes.

Drilled tabs on metal rings fitted over the outer shell of each relay are intended to be threaded together with lockwire which also passes through adjacent drilled screw heads in the case. The small flanges on the relay bases prevent their withdrawal through the rings.

Provision is also made to prevent access to input and output terminal screws by covers of flat translucent plastic secured to the tops of the terminal strips by screws with drilled heads to admit lockwire.

The Statrel "Information Leaflet for Types M3D (M3D-L) Three-Wire Duplicator" contains a complete circuit description and diagrams.

Approval granted to:

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A handwritten signature in cursive script, appearing to read "D.L. Smith".

D.L. Smith,
Chief, Electricity & Gas Division,
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