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-53

OTTAWA May 28, 1973.

Statrel Type "CCR-2" Contact Conversion Relay

Input	SPST (2-wire) dry contacts
Output	SPDT (3-wire) Form C dry reed contacts
Input Pulse Rate	50 per second maximum
Min. Pulse Duration	10 milliseconds
Max. Input Resistance (1)	1000 ohms
Output Contact Rating	100 milliamperes, 100 volts max., 10 watts max.
Number of Channels	2
Input/Output Pulse Ratio	1:1
Voltage applied to Transmitting Contacts	12 volts DC
Temperature Range	-20°C to +50°C
Power Supply	115-120 volts 60 Hz 3.5 VA

(1) Total resistance of metallic transmission line.

Description

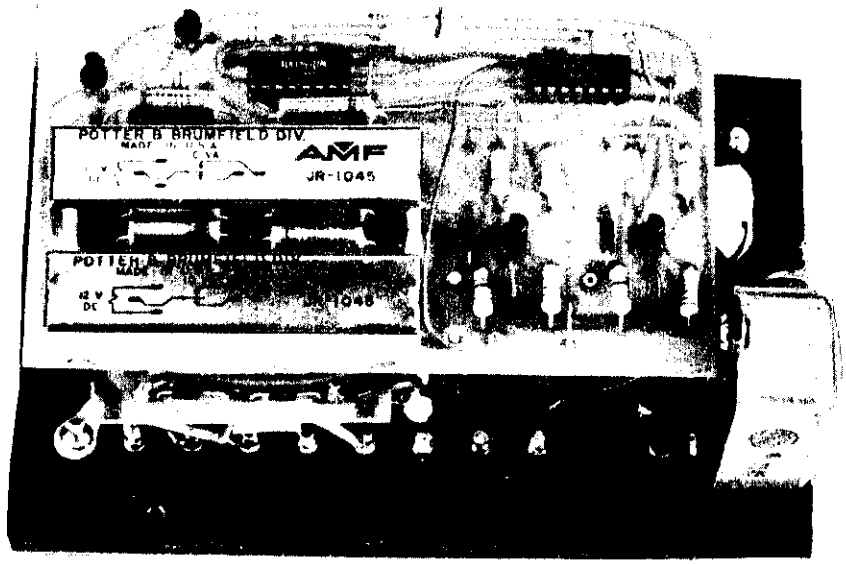
These contact conversion relays are solid state and, with the exception of the output reed relay, have no moving parts.

They were designed as an interposing relay between a meter having SPST 2-wire dry transmitting contacts and a receiver requiring a 3-wire input signal.

Each relay has two identical independent channels that could be supplied from the transmitting contacts on for example, an active energy meter and a reactive energy meter to operate two 3-wire demand recorders.

The power supply is common to both channels so that the two channels must not have any electrical connection between them.

... 2


POTTER & BRUMFIELD DIV.
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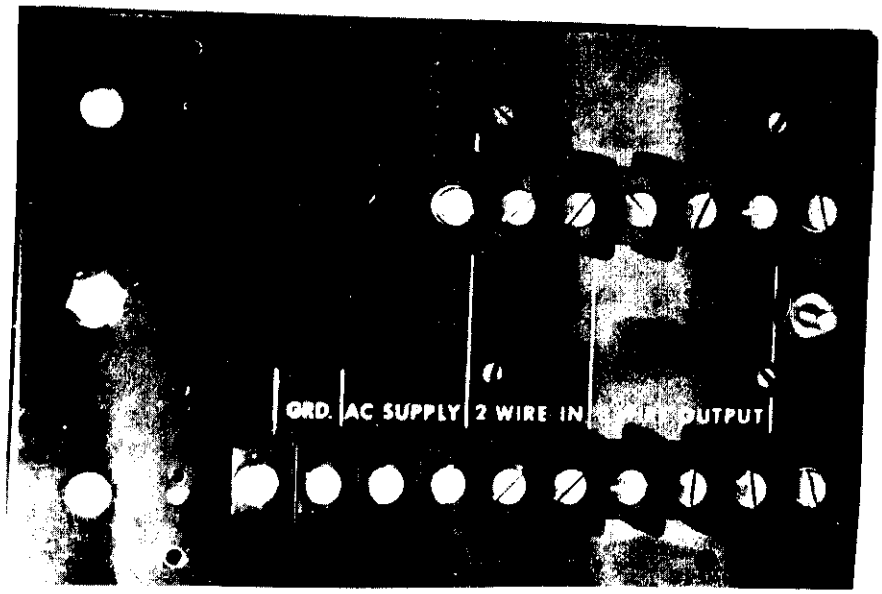

GRD.
AC SUPPLY
2 WIRE IN
OUTPUT


CONTACT CONVERSION
RELAY MODEL CCR-2
STATREL LIMITED
PORT CREDIT ONTARIO
Ser. No. 7

When the contacts on the transmitting meter close, a pulse is supplied to the base of a unijunction transistor which latches and through integrated circuits feeds a switching transistor in the relay coil circuit.

This switching transistor changes its state from "on" to "off" or vice versa in response to consecutive pulses from the contact closures on the transmitting meter thus producing SPDT action of the output contacts.

Because of the rapid response of this relay, any transmitting contact closure longer than 10 milliseconds will generate an output pulse. The transmitting contacts do not have to remain closed in order to hold the output relay in either of its positions.

Also because of the rapid response of this relay, extra output pulses could be generated if the transmitting contacts have any significant "bounce".

NOTE 1 An open-circuited transmission line will not produce any output pulses.

NOTE 2 A short-circuited transmission line may generate 1 pulse if the contacts on the meter were open at the time.

NOTE 3 Restoration of power after an outage may cause 1 extra pulse to be generated.

NOTE 4 Relays with serial numbers from 11 to 85 will have nameplates and terminal identification as shown in the illustration on page 2.

Subsequent relays will be as shown in the drawing on page 4.

The screws holding the cover in place will be cross-drilled for sealing wires.

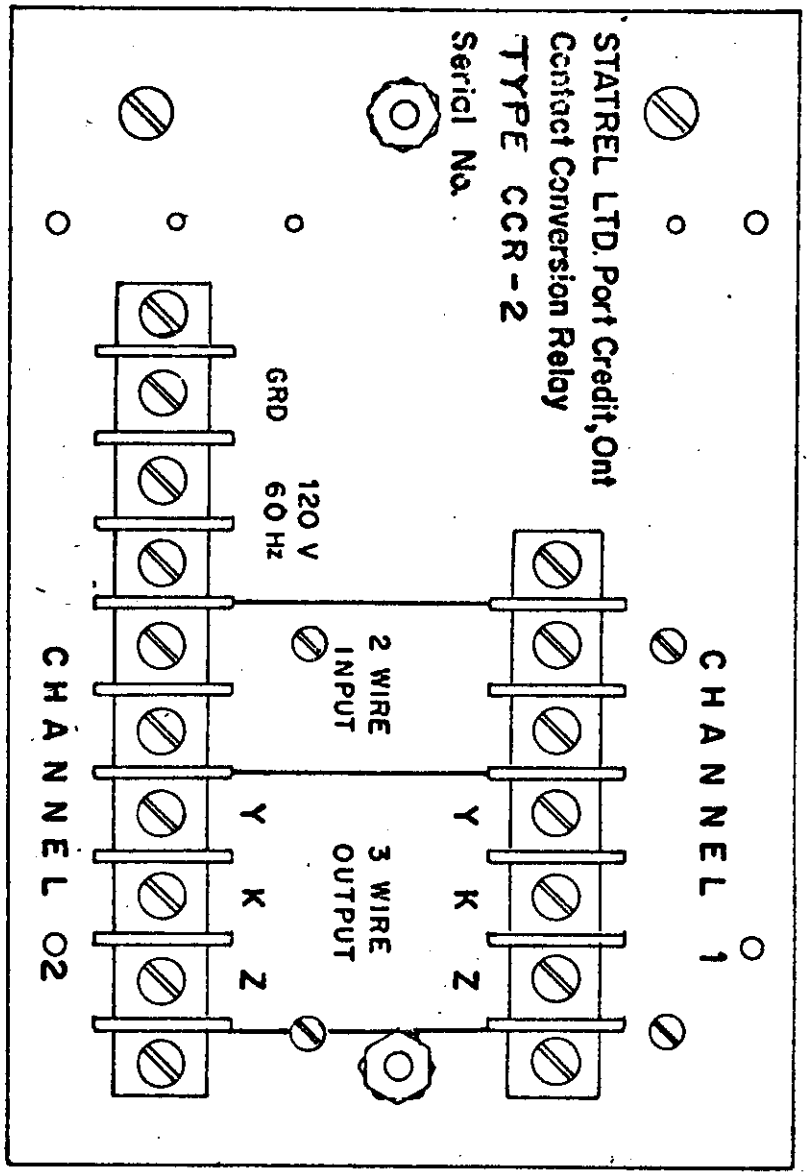
Approval granted to:

Statrel Limited,
Port Credit, Ontario

J.S.T. Swanson, P. Eng.,
Chief, Standards Laboratory,
Standards Branch

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

Ref: G 1145-57/087
GL 1145-57/087 A


STATREL LTD. Port Credit, Ont
Contact Conversion Relay
TYPE CCR-2
Serial No.
CHANNEL 1
CHANNEL 02
120 V
60 Hz
GRD
2 WIRE
INPUT
3 WIRE
OUTPUT
Y
K
Z
Y
K
Z