DEPARTMENT OF TRADE AND COMMERCE

STANDARDS BRANCH

E-37

OTTAWA July 18, 1966.

NOTICE OF APPROVAL

FOR

CANADIAN WESTINGHOUSE TYPES "CD-21" and "CD-21L" PULSE INITIATORS

Apparatus

Type	Photoelectric. No friction loading on meter
Output	S.P.D.T. "KYZ" output from mercury wetted contacts on relay
# Capacity of contacts	2 amperes maximum 500 volts maximum 100 VA maximum
Relay	Clare No. HGS-5005 Form C (break-before-make)
* Pulses per disc revolution	2 (flip-flop)
Maximum pulse rate	80 pulses per minute
° Watthours per pulse	Depends on the meter on which it is installed
Detent	Must be used on meter equipped with detent
# Contact protection	A series resistor-capacitance network is required across each contact for proper arc suppression. Suppression is not required when used with WR-2 or WR-4 Demand Recorders.
Power supply	120 volts 60Hz
Lead length	Maximum of 6 feet between power supply and meter
* Use	On Canadian Westinghouse types D2B-2F polyphase, and D35 single phase watthour meters.

These contacts are in the relay which is plugged into an octal socket mounted on top of the power supply external to the meter, and to obtain a long life of operation it is necessary that the contacts have arc suppression protection. This protection is a series resistor-capacitor network across each contact, and if the load is inductive, an additional surge suppressor or two Zener diodes back-to-back is required.

° The watthours per pulse depends upon the installation, and includes the transformer ratios if applicable. In each case the watthours per pulse will be marked on the nameplate.

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CANADIAN WESTINGHOUSE TYPE "CD-21" PULSE INITIATOR

TYPE CD PHOTOELECTRIC PULSE INITIATORS

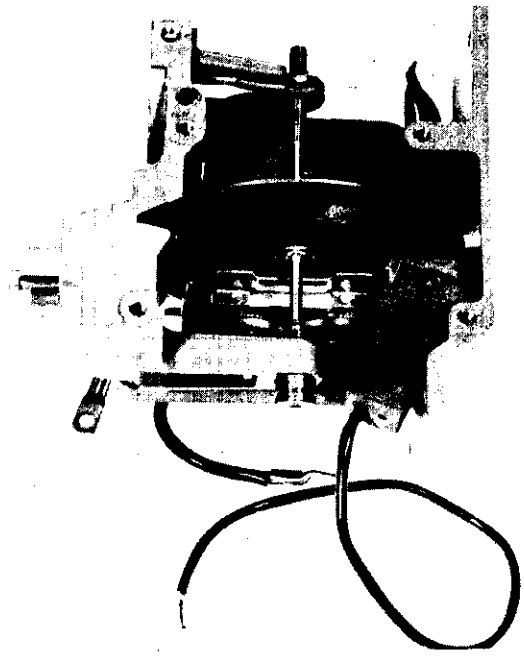

FIG. 6:
MOUNTING OF CD-21 ON D2B-2F FRAME

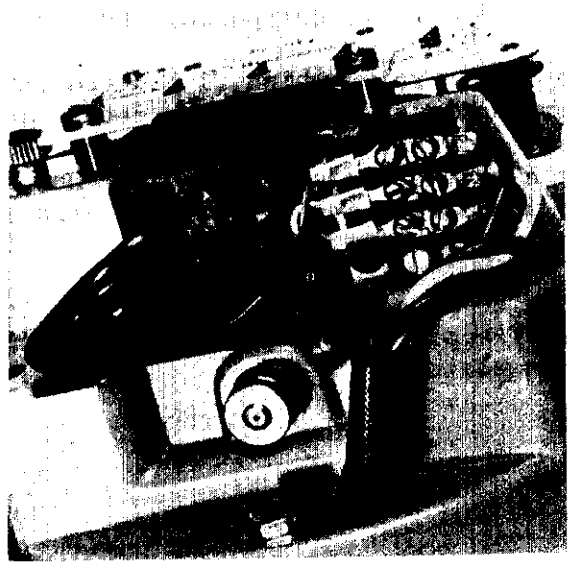

FIG. 9: CD-21
MOUNTED ON SINGLE-PHASE TYPE FRAME
(NAMEPLATE OMITTED)

* The type CD-21 in common with type CD-24 (E-14) requires a meter disc with the pulse matrix printed on it. Because the CD-21 will generate pulses regardless of the direction of disc rotation, and the only detent available is the standard detent on the meter disc, 2 pulses per disc revolution is the only rate covered by this approval.

Description

The photodiodes used in the type CD-21 are the low voltage version of those used in the type CD-24 that received approval under E14.

The type CD-24 was intended to be used with the types WR-2 and WR-4 recorders only, but the type CD-21 may be used with any recorder including the WR-4, that requires S.P.D.T. contact action and has current and voltage requirements within the capacity of the mercury wetted contacts of the output relay.

The type CD-21 pulse initiator operates from a pulse matrix on the underside of a meter disc. This pulse matrix is in the form of two reflective areas on different radii on an otherwise blackened disc.

The sensing head comprises two photocells and two miniature lamps behind a cylindrical lens. The reflective areas on the disc reflect the light onto the two photocells alternately. These photocells conduct in opposite polarity so that the current through the polarized relay reverses direction as the disc rotates producing single pole double throw action of its contacts.

The transformer that powers the photocells and the miniature lamps is equipped with an octal plug that plugs into an industrial octal socket to the terminals of which all connections are made. This socket must be mounted within six feet of its associated meter.

On the top of this power transformer is another octal socket into which the relay is plugged, and provision is made for sealing wires by means of which the utility may seal both the power transformer and relay to prevent their unauthorized removal.

On the type D35 single phase watthour meters, the sensing head is attached to a bracket which is mounted on posts directly behind the nameplate, and a block with screw terminals is added to provide a disconnect between the head and the plug in the meter base.

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Approval granted to: Canadian Westinghouse Company Limited,
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