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

STANDARDS BRANCH - DIRECTION DES NORMES

NOTICE OF APPROVAL G - 58

OTTAWA December 31, 1970.

CANADIAN METER COMPANY PRINT-OUT MODULE, TYPE 101

Apparatus

Primary Actuating Unit	Approved, Canadian Meter Co. B.V.I. Type 3 and B.P.I. Type 4; B.V.I. Continuous Integrator Model 100
Printout Interval	1 hour or 24 hours
Chart Capacity	36 digital printouts
Chart Data	4½" circular chart of sensitized paper
Printout Power Source*	1.5 volt, size D dry cell
Minimum Operating Voltage	1.25 volts
Timing Device*	Mercury Inst. Inc. model 99, battery operated
Operating Temperature Range	0°F to +120°F

* For temperatures below +10°F, an alkaline cell must be used.

Description

The Canadian Meter Company Print-Out Module is a battery powered mechanism whose digital counter reading is periodically printed onto a chart of sensitized paper. The print-out module counter reading is identical to the reading on the corrected counter of the primary actuating device and is accomplished by means of an appropriate gear train and a shaft extending into the print-out unit from the primary auxiliary device.

The print-out mechanism is contained in a cast aluminum weatherproof case with a viewing window. The primary auxiliary device is mounted on an adaptor frame bolted to the print-out module case.

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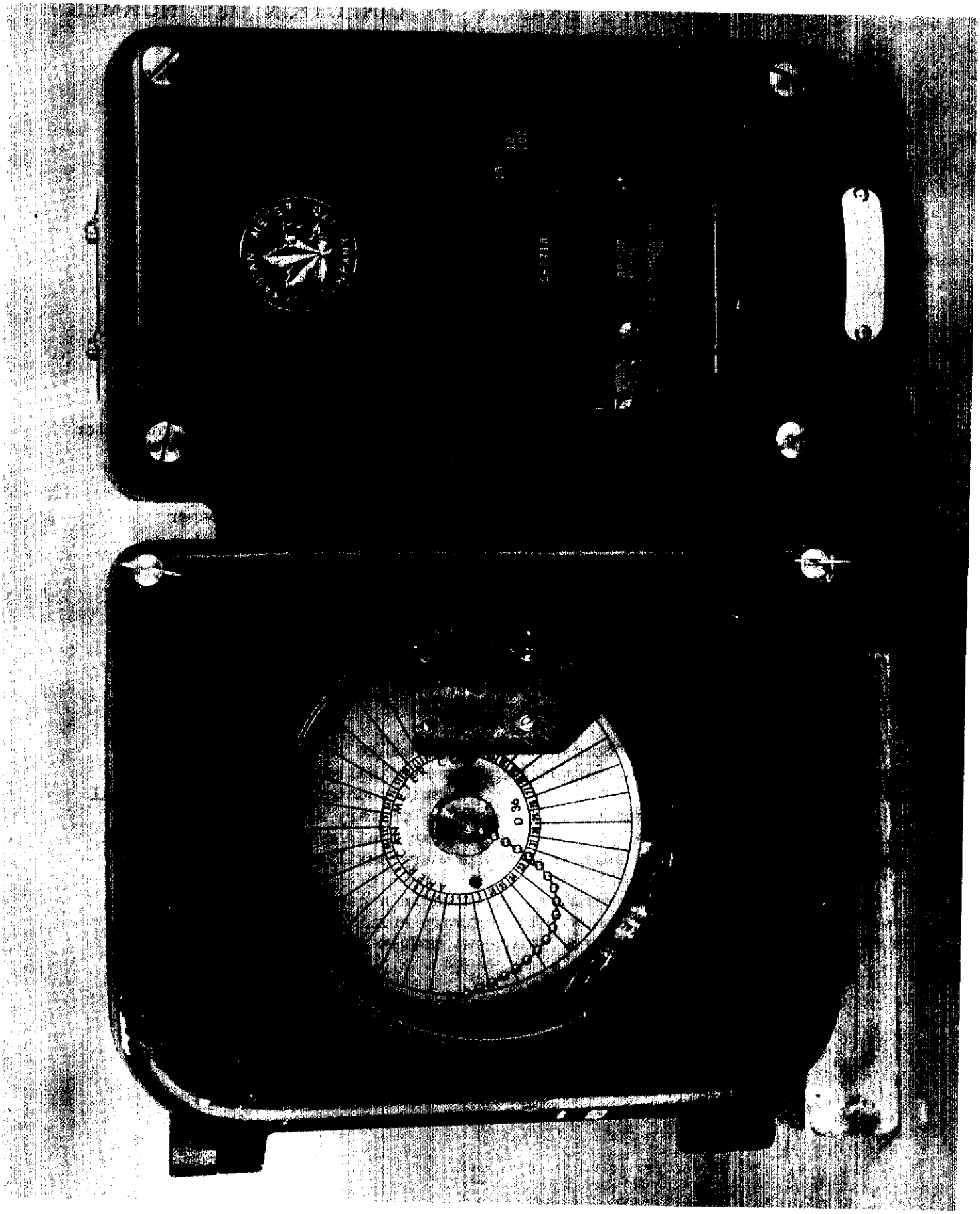

The module consists essentially of two mechanisms, (1) the timing mechanism and (2) the print-out mechanism.

The timing mechanism is a Mercury Instrument Inc. 99, battery powered chart drive, outfitted with a one, or twenty-four lobed cam on its output shaft. A suitable cam-follower closes a switch and actuates the print-out mechanism. When the timing unit signals the print-out mechanism to operate, the print-out cycle commences. By the action of a compound cam, the print is made, the chart is advanced, the spring on the printing hammer is reloaded and the print-out mechanism is set in the ready-to-print position again.

In operation, the timing mechanism switch signals the compound cam drive motor to rotate the cam and close a cut-off switch which continues the cycle independent from the signal. The cam moves to the print position and at this point, the hammer cam-follower drops free of the highest part of the cam face. A spring causes the rubber faced hammer to strike the chart against the raised numbers of the print-out counter, releasing ink which is invisibly suspended in the chart paper, thereby producing a readable number on the chart. A retard spring within the hammer spring removes the hammer from the chart immediately following the impact. The cam motor forces the hammer cam follower back up to the ready-to-print position. This loads the hammer spring and rotates the chart to the next printing position. When the cam reaches this position the cut off switch opens and the motor stops, completing the cycle.

If the print-out is actuated by the timing mechanism during the time the counter reading is changing, the print would show parts of the counter numbers being driven. To prevent this, a "defeat mechanism" actuated by the input shaft wriggler opens a "defeat" switch which interrupts the print-out cycle. This interruption is synchronized with the reading changing. When the reading is stationary, the defeat switch is closed, and the print-out cycle continues.

When the print-out module is first placed into service, it is necessary to ensure that the initial print-out counter reading is the same as the corrected counter reading on the primary auxiliary device.

Just after installing a chart, or before removing it, a print of the counter reading can be made by pushing a red override button located at centre left of the module. This button overrides all other circuits.

When placing a new chart in the module, chart segment number one should be aligned with the print-out counter so that the initial print-out will be recorded in this chart segment.

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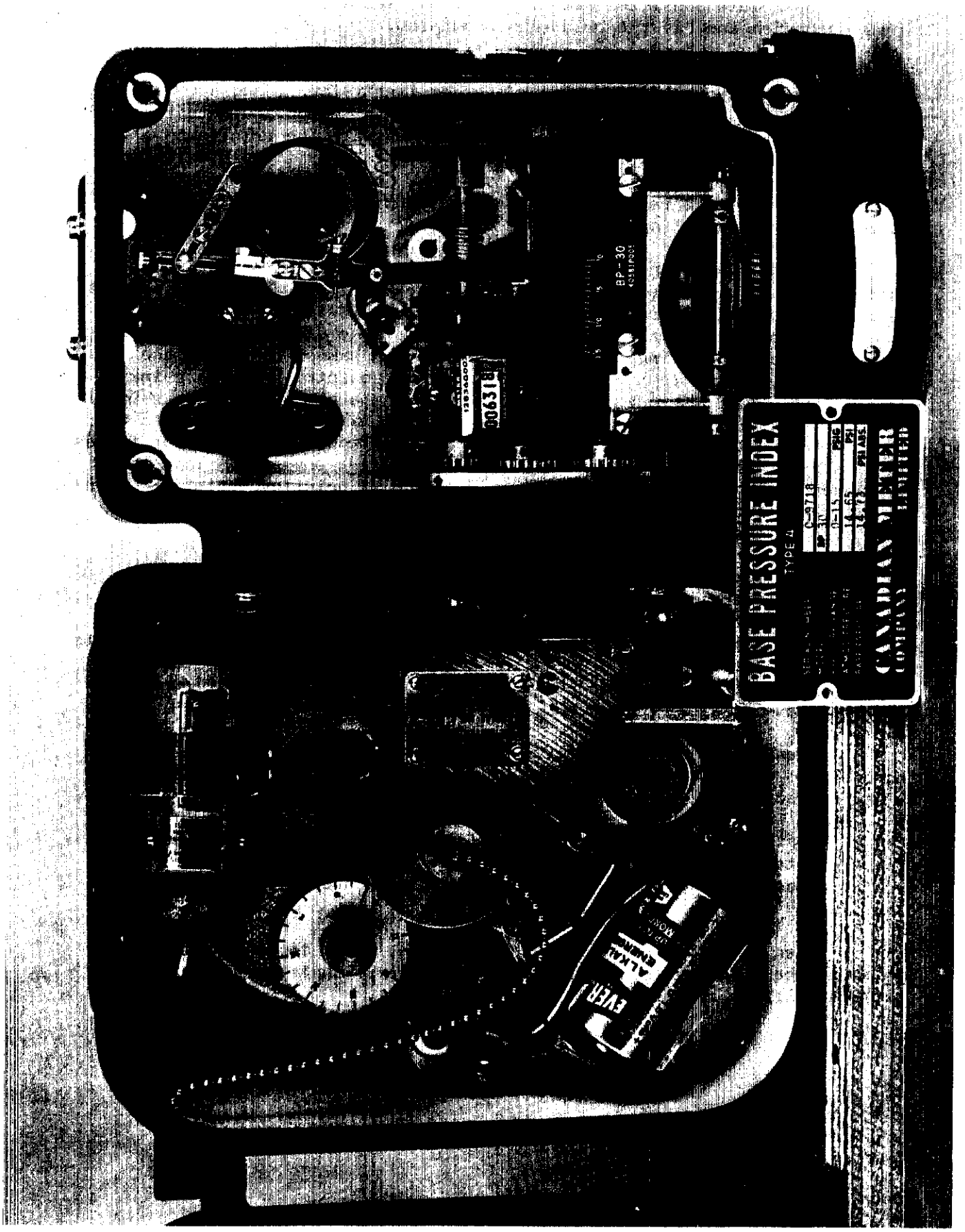

The print-out time can be set to the time of day by loosening the nut holding the lobed cam onto the chart drive hub and manually rotating the cam until print-out takes place.

Each print-out module shall have the following information indelibly marked on a nameplate, or plates permanently attached to the device: Maker's name, type designation, serial number, print-out interval, print-out units, operating temperature range, base pressure and/or base temperature.

Approval granted to:

Canadian Meter Company Ltd.,
Milton, Ontario or
Edmonton, Alberta.

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