





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



STANDARDS BRANCH - DIRECTION DES NORMES

## NOTICE OF APPROVAL

G - 61

OTTAWA January 5, 1970.

### HERSEY-SPARLING 1001 METER READER

#### Apparatus

Meter Register	(1) 4 digit, odometer counter, reading in 100 cu. ft. increments.
	(11) 2 test dials - $\frac{1}{4}$ and 1, or $\frac{1}{2}$ and 2 cu. ft. per revolution
Interconnecting Cable	17 wire, ribbon - max. length 50 ft.
Register Display Unit (RDU)	battery operated, 16 lights, binary (1-2-4-8) coded - 4 digit capacity

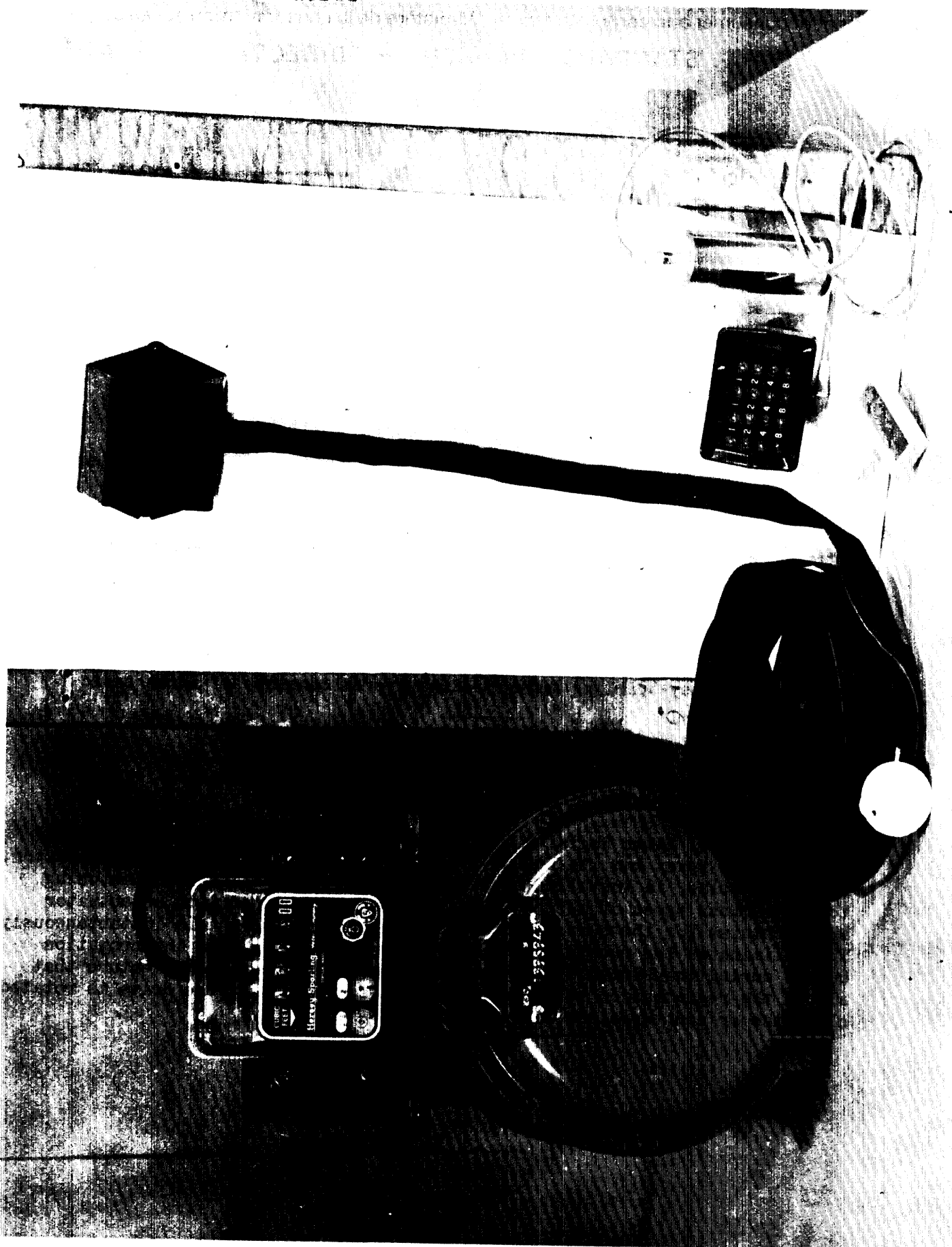
#### Description

The Hersey-Sparling meter reading system consists of three basic elements:

1. The 1001 Meter Register, or Index.
2. The Receptacle, remotely located from the meter.
3. The Register Display Unit (RDU).

The 1001 Meter Register is a hermetically sealed unit which replaces the standard index and its box on the existing gas meter. A suitable adaptor, made of cycolac, is installed between the meter and the index for matching to the various types of meters. The register is equipped with an actuator arm mechanism for the purpose of moving the number disc wheels instantaneously. This eliminates the possibility of an incorrect reading when interrogation occurs during transition time. The design also incorporates a feature that allows the registration to increase regardless of whether the drive is rotated clockwise or counter-clockwise.

HERSEY -SPARLING 1001 METER READER



Each numbered disc wheel has four cam tracks which correspond to four brushes. The cams depress these gold plated, beryllium copper brushes in various combinations depending on the reading of the index. These combinations correspond to the binary code. There are 17 brushes, 4 for each number disc plus one common wire. A 17 wire ribbon cable connects electrically the brushes of the index with the remotely located receptacle.

The Receptacle, made of black cycolac material, has a lid to which a label is affixed with the serial number of the meter. The lid has a spring loaded, magnetic latch which is released when a mating magnet on the read-out probe is brought under the latch.

The Register Display Unit consists of a probe with a set of lights, arranged in four rows and four columns and a rechargeable battery pack. The replaceable bulbs are recessed and shielded to be visible in direct sunlight. On the face of the RDU unit are three columns of numbers (1,2,4,8) placed between the four columns of lights. At the other end, the RDU unit carries an externally attached ceramic magnet for unlatching the lid of the receptacle.

In operation, the RDU unit is connected to the battery, the lid of the receptacle is opened and the RDU probe (with its magnet facing up) is inserted into the receptacle until the bulbs light. The meter reading is obtained through the vertical summation of the lighted number values in each column.

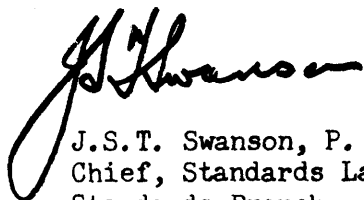
The manufacturer provides a test plug for verifying proper operation of the RDU unit. With the unit connected to the battery the test plug is inserted into the probe so that its contacts are engaged with the printed circuit of the test plug. All 16 bulbs should light if the unit operates properly. It is recommended that this test be made daily.

Gas meters equipped with Hersey-Sparling 1001 Index shall be tested on a bell prover in the same manner as other domestic gas meters.

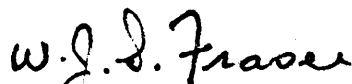
At the time of installation of the gas meter fitted with a Hersey-Sparling Meter Reader the utility shall ensure that the meter registration on the 1001 Meter Index is properly transferred to Register Display Unit (RDU).

The Hersey-Sparling 1001 Meter Reader is approved for use on any suitable approved domestic gas meter whose rated capacity does not exceed 250 cu. ft. per hour, air.

Approval granted to:

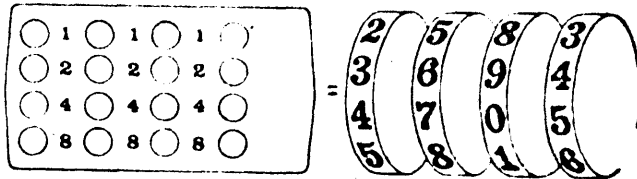
  
J.S.T. Swanson, P. Eng.,  
Chief, Standards Laboratory,  
Standards Branch.

Sprague Meter Division of Textron,  
(Canada Limited),  
Hamilton, Ontario.

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

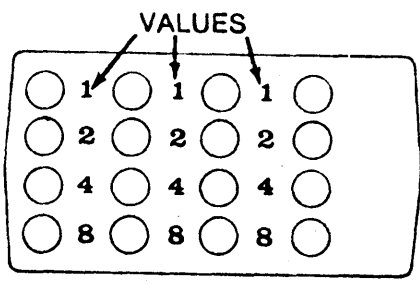
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SE-82-25

### Reading Instructions:

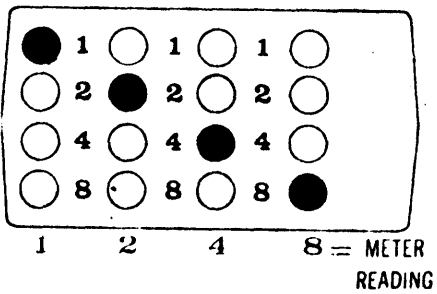


1. You will note that there are four vertical columns of lights. There are four lights in each column. Each column represents one number disc.

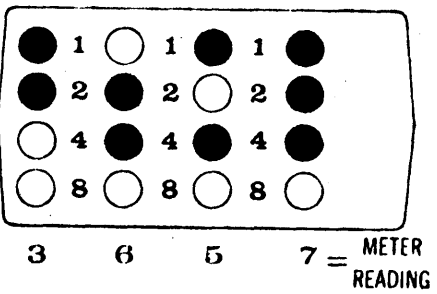
2. As there are only four lights in each column to signify any one of the 10 numbers on a number disc, each light is given a different value. The top light in each column is worth 1, the second light worth 2, the third worth 4, and the bottom worth 8. These values are shown on the RDU.



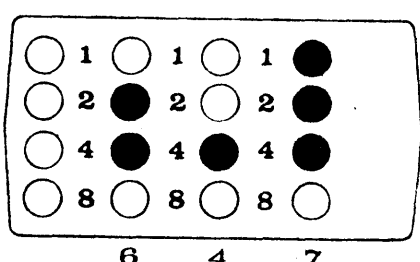
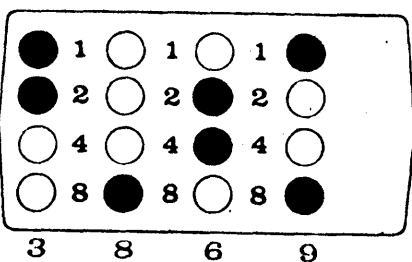
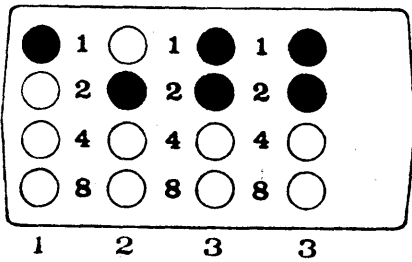
3. Thus, if only the top light is lighted, the meter reading for that number disc is one. If only the second light is lighted, the meter reading is 2. If only the third light is lighted, the reading is 4 and if only the fourth light is lighted, the reading is 8.



4. Now, to indicate numbers other than 1, 2, 4 and 8; two or three lights are activated in a column and the corresponding value numbers are added.



5. Here are some typical examples: (Note: if no lights are lighted in a column, the reading is 0 for that number disc.)



### Charging Instructions:

Your RDU is equipped with battery pack that may be clipped to your belt. This battery pack should be recharged each night by plugging one end of the charge cord into a

standard household 110 V outlet and the other end into the charging outlet on the battery pack. If you recharge it for at least 12 hours, your RDU should be ready for about 500 meter readings.

### Testing:

A test plug is provided for insertion into the probe end of the RDU to activate all 16 lights. The test plug is inserted with the printed

circuit facing down to engage the contacts in the probe. It is recommended that this test be made daily.

# HERSEY-SPARLING METER CO. DEDHAM, MASS., U.S.A.

## 1001 REGISTER DISPLAY UNIT (RDU)

