

# Badger Read-o-Matic®

## REMOTE READING FOR GAS METERS



Systems Inc.

International Measurement and Control Systems

Manufacturers/Distributors of  
Precision Gas Measurement Equipment

**IMAC SYSTEMS, INC.**

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# Solve Your Meter-Reading Problems With Badger's Gas Read-o-Matic

Badger Read-o-Matic provides an economical, time-proven method of obtaining remote readings from gas meters that are installed in basements, on rooftops or in other hard-to-reach locations. Without relocating meters, gas utilities can eliminate access problems, estimated billings and inconvenience for meter-readers and customers.

Mounted on an exterior building wall, the Read-o-Matic remote register is connected by wire to the generator on the meter. Gas flowing through the meter provides all the energy needed to operate the generator and the outdoor register.

Read-o-Matic was the original outdoor register for water

meters, and the idea was so well accepted that Badger developed a Read-o-Matic especially for all hard case gas meters. Badger Read-o-Matic is helping thousands of utilities to save time, money, and manpower with meter-reading.

Although most applications are for residential sites, Read-o-Matic is equally suited for industrial, commercial and apartment buildings where meter-readers have access problems. The remote registers also are frequently used in central reading stations for shopping centers.

For gas utilities, Read-o-Matic is available with a direct-reading index and different generators for meters with capacities from 75 cfh to 10,000 cfh. (See facing page.)

## TYPICAL METER-READING PROBLEMS . . .



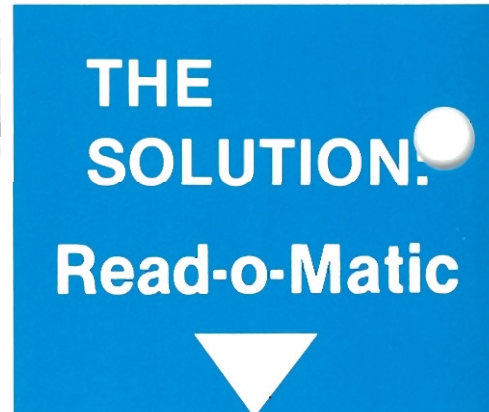
*No More Risk of  
In-House Accidents*



*No Groping  
To Find Meter*



*No Waiting,  
No Delays*



## VALUE ENGINEERED DESIGN FEATURES

- Evaluated to be intrinsically safe for gas applications
- Approved by many Public Service Commissions
- No additional complex accessories required to read meter
- Pulse generator design for future compatibility with AMR
- Pulse generator is capable of sending signal to a remote register at a distance of 5,000 ft.
- Tamperproof screws for generator and remote register
- Self-powered, no batteries or external current source required
- No measurable reflected torque load on gas meter
- Over twenty-five years of reliable service history behind the Read-o-Matic
- Outside register protected against the effects of ultraviolet rays
- Costs considerably less than relocating indoor meter outside
- Closed system with no switches or contact points for reliability
- Original index retained on gas meter. Outdoor register can be synchronized with gas meter index.



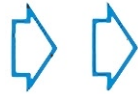
*Designed for eye-level mounting for maximum  
meter reader efficiency.*

# Utilities **BENEFIT** from the Read-o-Matic

## Read-o-Matic Produces Quick **PAYBACK** for Utilities

### Look How Read-o-Matic Can Help You

#### BENEFITS



#### YIELD



#### PAYBACK

Eliminates lockouts  
 Improves efficiency - 3 to 5 times improvement  
 Eliminates the need to estimate billings  
 Eliminates the risk of in-house accidents  
 Improves customer relations; fewer meter reader interruptions  
 Requires no batteries or house current  
 Installs simply, easily and fast  
 Requires no additional equipment to operate  
 Over 25 years of reliable service history behind design, 5 million units in service  
 Design compatible with future technological changes to accommodate AMR

Eliminates cost of callbacks  
 Reduces manpower needs  
 More timely, accurate billing and cash flow; eliminates cost of handling/answering customer complaints  
 Fewer work related accidents; fewer workmen compensation claims  
 Reduces manpower needed to handle customer complaints  
 Eliminates cost and maintenance of batteries, and lost revenues from a power outage  
 Most cost effective remote to install  
 Lowest cost remote system to purchase, maintain, and operate  
 Value engineered to be the most durable, reliable, cost effective remote system  
 Eliminates replacement and installation costs to upgrade system for AMR

### Read-o-Matic **PAYS** for Itself . . . **AGAIN** . . . and **AGAIN** . . . and **AGAIN**



*Model 570 direct-reading index is available with four or five number wheels and offers two dial options: single window for meter serial number, or double window for apartment and serial numbers.*

Badger's Read-o-Matic has been designed to fit the following list of hard case and rotary gas meters

- American
- Lancaster
- Rockwell
- Romet
- Roots
- Sprague
- Superior

For more information or to place your order refer to the back page of this publication.

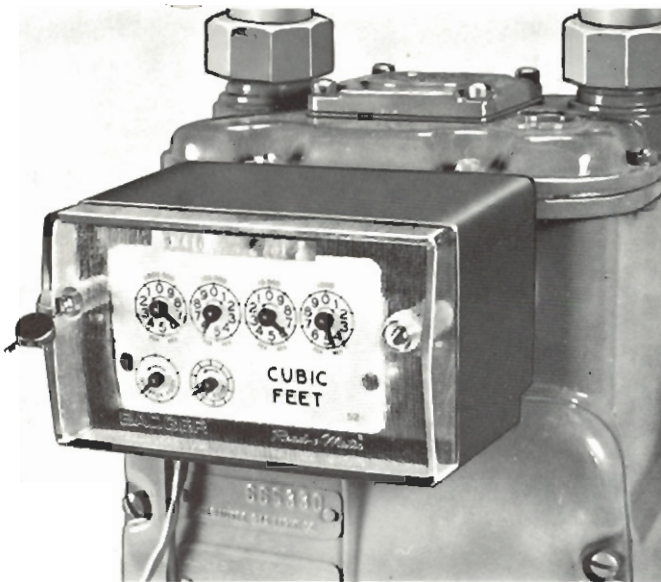


*Generator for large-size gas meters with capacities between 750 and 10,000 cfh. Installed on top of meter along with original index.*

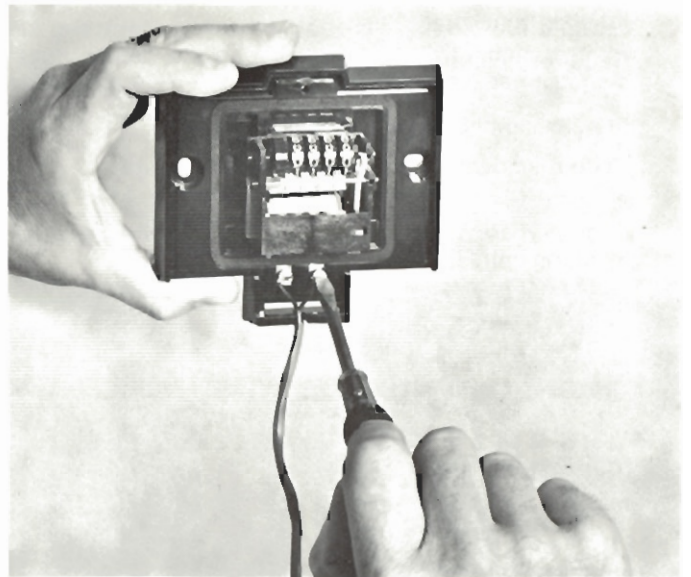
# Read-o-Matic System Easy To Install

Installation of a Badger Read-o-Matic involves only a simple, two-wire connection between the remote register and the generator. The outdoor register can be located up to 625 feet away from the gas meter using 19-gauge wire, and even farther with heavier-gauge wire. To install a residential-type Read-o-Matic, follow these five simple steps:

- Remove original index from gas meter.
- Remove cover and housing from Read-o-Matic generator.
- Mount generator, adapters when needed, and original index onto meter. Connect wires to generator terminals.
- Install generator housing and cover onto generator.
- Run wire to outdoor register and connect to register terminals. Mount remote register on wall to complete installation.



*Read-o-Matic generator is mounted behind original index of meter.*



*Wire is connected to terminals on Read-o-Matic register.*

## PRINCIPLE OF OPERATION

A self-contained generator is mounted on the gas meter and connected to the Read-o-Matic outdoor index by low-cost, two-conductor wire. The flow of gas starts the system operating by producing a rotary motion of the meter drive dog. This motion is transferred to a spring-biased, six-pole magnet in the generator by means of a reduction gear train and an escape gear.

When the escape gear is released, the biasing springs return the magnet to its original position. This action produces a pulse signal of short duration in coils located near the magnet.

The pulse (approximately 8 volts) is transmitted over the wire to a solenoid in the outdoor register. One pulse is sent for every 100 or 1,000 cubic feet of gas, depending on the meter size. The Read-o-Matic register advances one digit for every pulse received.

**WARRANTIES** — Except as otherwise stated in Warranty Form S-3449 with regard to certain disc meters, Badger warrants equipment and parts manufactured by it and supplied hereunder to be free from defects in materials and workmanship for a period of 18 months from date of shipment or 12 months from date of installation, whichever period shall be shorter. If within such period any such equipment or parts shall be proved to Badger's satisfaction to be defective, such equipment or parts shall be repaired or replaced at Badger's option. Badger's obligation hereunder shall be limited to such repair and replacement and shall be conditioned upon Badger's receiving written notice of any alleged defect within 10 days after its discovery and, at Badger's option, return of such equipment or parts to Badger, to its factory. This warranty shall not apply to equipment or parts not manufactured by Badger or to equipment or parts which shall have been repaired or altered by others than Badger, or which shall have been subject to negligence, accident, damage by circumstances beyond Badger's control, or improper operation, maintenance or storage, or to other than normal use or service. With respect to equipment and parts not manufactured by Badger, the warranty extended to Badger by the supplier.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES WHATSOEVER, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE (except warranties of title). This exclusive remedy shall not be deemed to have failed its essential purpose so long as Badger is willing and able to replace defective products or issue a credit to purchaser within a reasonable time of proof to Badger that a defect is involved.

Any description of the products, whether in writing or made orally by Badger or Badger's agents, specifications, samples, models, bulletins, drawings, diagrams, engineering sheets or similar materials used in connection with any purchaser's order are for the sole purpose of identifying the products and shall not be construed as an express warranty. Any suggestions by Badger or Badger's agents regarding use, application or suitability of the products shall not be construed as an express warranty, unless confirmed to be such in writing by Badger.

**Exclusion of Consequential Damages and Disclaimer of Other Liability.** Badger's liability with respect to breaches of the foregoing warranty shall be limited as stated therein. Seller's liability shall in no event exceed the contract price. SELLER SHALL NOT BE SUBJECT TO AND DISCLAIMS (1) ANY OTHER OBLIGATIONS OR LIABILITIES ARISING OUT OF BREACH OF CONTRACT OR OF WARRANTY (2) ANY OBLIGATIONS WHATSOEVER ARISING FROM TORT CLAIMS (INCLUDING NEGLIGENCE AND STRICT LIABILITY) OR ARISING UNDER OTHER THEORIES OF LAW WITH RESPECT TO PRODUCTS SOLD OR SERVICES RENDERED BY SELLER, OR ANY UNDERTAKINGS, ACTS OR OMISSIONS RELATING THERETO, AND (3) ALL CONSEQUENTIAL, INCIDENTAL AND CONTINGENT DAMAGES WHATSOEVER.

## ORDERING INFORMATION

To order: specify the gas meter and model number, index test circle, and the maximum registration for the direct-reading remote register.

Call your local Badger Read-o-Matic Representative: