RF1 iV PSC

Gas Smart Payment Meter

Itron has added an innovative Smart Payment function to its newest generation of widely used RF1 gas meters. A member of the Eclipse family of meters, the RF1 iV PSC is the latest Smart Card Smart Payment meter in Itron's Revenue Collection Systems, embodying more than 18 years of Smart Payment and revenue management experience.

KEY BENEFITS

» Self-billing meter
» Pre or Post-Payment billing mode
» 2-way communication
» Electronic Temperature Compensation (optional)
» Internal valve
» Field-swappable battery
» Multiple fraud detection

SOLUTION ARCHITECTURE

VENDING CHANNELS
3rd Party, Scratch, Online, mPOS, Kiosk, Mobile, PC

EVG

UTILITY SYSTEM

ISM

TOKEN BASED SMART PAYMENT METERS

DATA COLLECTION
3E Core*/SPE**
*for 2-Way Smart Payment Meters
**for AMI based Smart Payment Meters

GAS ANALYTICS

THE SYSTEM

RF1 iV PSC meter features the RF1 meter, which has been installed in more than 10 million locations worldwide. It has been enhanced with a secure Payflex Smart Card token.

The microprocessor-based Smart Card provides low-cost, reliable and secure two-way communication between the point of sale (ATM, PC, self-service POS) and the installed meter.

The revenue collection module offers innovative and customer friendly functions, such as no-disconnect periods, self-decommissioning, emergency credit and data logging capability. It also provides leak and fraud detection, overflow control and broad tariff flexibility.

The RF1 iV PSC is part of the Eclipse Enterprise Edition multi-resource revenue collection system. This system provides efficient revenue collection, and enhanced data capture and reporting, for both electricity and gas utilities.

ELECTRONIC TEMPERATURE COMPENSATION (OPTIONAL)

The temperature converted volume shown on the electronic index allows to bill the consumer more accurately (for 2 pipe version).

STANDARDS & COMPLIANCE

The meter is compliant with the following directives, standards and norms:

» MID approved
» EN 1359 and OIML standards
» ISO 9001 certified
» ATEX approved

DATA LOGGING & CONFIGURATION

» **Data Logging:** The meter has a built-in data logging function that can store up the 720 index values 24 times a day for a 30 day long period. A log keeps track of the last 60 events, alarms and actions.

» **No Disconnect:** The meter can be configured to avoid disconnection during specified periods. This can include defined times of day, certain days, weekends, or specific periods of the year.

» **Self Decommissioning:** An automatic "close down" special action lets the utility or consumer decommission the account directly. No on-site visit from the utility is required.

BILLING METHODS

Itron's Smart Payment solution allows **automated data collection** at the time the consumer is toping up its energy credit. In accordance with the local regulations, the meter can be set in different billing modes:

» **Regular Prepayment:**
By loading the Smart Card upfront, the consumer has to pay his gas provision before consuming.

» **Pay-as-you-go:**
In this typical post payment mode, the end customer is charged for the consumed gas after a certain period based on volume or time.

SAFETY AND SECURITY

» Metrological and functional parts of the meter protected with separate seals.

» **Leak detection:** A leak test is conducted every time the gas valve opens to ensure other gas appliances have not been left on. The valve automatically closes if the installation is not tight.

» **Alarms (valve closes automatically):**
  • Open cover alarm
  • Overflow alarm
  • Backflow alarm
  • Battery low (threshold
  • configurable)
  • Secure Payflex Smart Card token

Technical Specifications

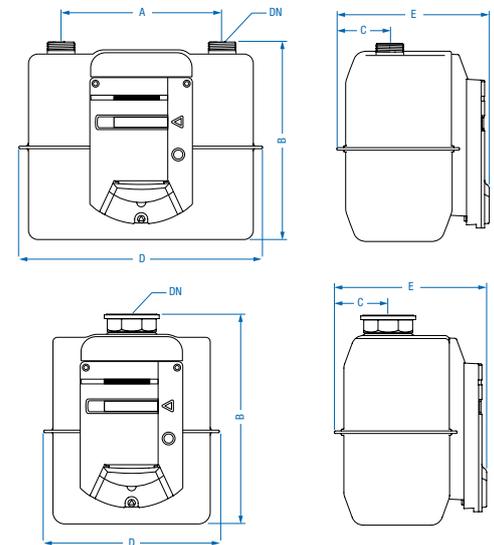| Parameter	Value
Gas type	Natural gas, air, propane, butane, nitrogen and all non-corrosive gases
Cyclic Volume	2 dm^3
Measuring Range	G4 Qmin 0.04 m^3/h Qmax 6 m^3/h G6 Qmin 0.06 m^3/h Qmax 10 m^3/h
Accuracy	Class 1.5
Standards / Directives	Directive 2004/22/EC (MID)***, Directive 94/9/CE (ATEX), Directive 2004/108/EC (EMC); Conformity with EN1359:1998-A1:2006
Maximum operating pressure	0.5 bar (0.1 bar for HTL version) Valve operation up to 0.15 bar
Temperature range	Operating -10°C to +55°C Storage -25°C to +70°C
ATEX approval	Under 2 mbar**
Ingress Protection	Zone 2: ⟨Ex⟩ II 3 G Ex ic IIA T3.
Humidity	Max 93% RH at 40°C
Dust and rain	IP54 minimum protection level (according EN60529)
Casing	Aluminium/Zinc-coated sheet with light grey painting (RAL 7035)
Electronics housing	ABS
Smart Payment Protokoll	Secure Payflex Smart Card Token (complies with ISO/IEC 7816)
Battery	Lithium battery with 8 years average life time*
Display	Multi-segment LCD

* Battery life time may vary depending on usage

** Below 2mbar for G6 dual pipe version only

*** MID certification only applies to the mechanical register

Dimensions and Weight

Meter Type	Size mm					Weight kg
	A	B	C	D	E	
2 pipe	250	267 +7*	71	325	209	3.3
1 pipe	n/a	274	71	233	209	3.1

* Depending on the connection height

Connection threads*

Type	2 pipe	1 pipe
ISO 228-1	G ¾" A, G ⅞" A, G¼" A	G 2"

* Other meter types and versions are available. Please contact us for further inquiries.