



Knowledge to Shape Your Future

Gas Solutions

100G Datalogging Installation Guide - Direct Mount

Identification

100G Datalogging Installation Guide - Direct Mount
07/28/2010 TDC-0823-005

Endpoint part numbers: 100G Endpoint: ERG-5000-001, ERG-5000-002, ERG-5000-003, ERG-5000-004, ERG-5000-005, ERG-5000-006, ERG-5000-007, ERG-5000-008
100G Datalogging Endpoint: ERG-5002-001, ERG-5002-002, ERG-5002-003, ERG-5002-004, ERG-5002-007, ERG-5002-008

Copyright

© 2009 - 2010 Itron, Inc. All rights reserved.

Confidentiality Notice

The information contained herein is proprietary and confidential and is provided subject to the condition that (i) it be held in confidence except to the extent required otherwise by law and (ii) it is used only for the purposes described herein. Any third party given access to this information shall be similarly bound in writing.

Trademark Notice

Itron is a registered trademark of Itron, Inc.

All other product names and logos in this documentation are used for identification purposes only and may be trademarks or registered trademarks of their respective companies.

Applicable Patents

U.S. Patent Numbers: 4,614,945; 4,753,169; 4,768,903; 4,799,059; 4,867,700

Canadian Patent Numbers: 1,254,949; 1,267,936; 1,282,118

Compliance Statement

This device complies with Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference that may cause undesirable operation.

This device must be permanently mounted such that it retains a distance of 20 centimeters (7.9 inches) from all persons in order to comply with FCC RF exposure levels.

Compliance Statement

This equipment has been tested and found to comply with the limits, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. Operation is subject to the following conditions:

- This device may not cause interference.
- This device must accept any interference that may cause undesired operation of the device.

Compliance Statement

This equipment complies with policies RSS-210 and RSS-GEN of the Industry Canada rules.

Operation is subject to the following two conditions:

- (1) this device may not cause interference, and
- (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Transportation Classification

The Federal Aviation Administration prohibits operating transmitters and receivers on all commercial aircraft. When powered, the 100G Datalogging Endpoint is considered an operating transmitter and receiver and cannot be shipped by air. All product returns must be shipped by ground transportation.

Modifications and Repairs

To ensure system performance, this device and antenna shall not be changed or modified without the expressed approval of Itron. Any unauthorized modification will void the user's authority to operate the equipment.

Meter Installation/Removal

In the event of malfunction, all repairs should be performed by Itron. It is the responsibility of users requiring service to report the need for service to Itron.



Warning Follow these procedures to avoid injury to yourself or others:

- The lithium battery may cause a fire or chemical burn if it is not disposed of properly.
- Do not recharge, disassemble, heat above 100° Celsius (212° Fahrenheit), or incinerate the lithium battery.
- Keep the lithium battery away from children.
- Replace the lithium battery only with batteries meeting Itron specifications. Any other battery may cause a fire or explosion.



Warning Only authorized Itron personnel should attempt repairs on Itron equipment. Attempts to do so by others might void any maintenance contract with your company. Unauthorized service personnel might also be subject to shock hazard on some Itron equipment if removal of protective covers is attempted.



Warning To prevent ignition of flammable or combustible atmospheres, disconnect power before servicing.



Warning Substitution of components may impair intrinsic safety.

Suggestions

If you have comments or suggestions on how we may improve this documentation, send them to TechnicalCommunicationsManager@itron.com
If you have questions or comments about the software or hardware product, contact Itron Technical Support:

Contact

- Internet: www.itron.com
- E-mail: support@itron.com
- Phone: 1 877 487 6602

Document Conventions

The following documentation conventions are used in this installation guide:



Caution A Caution warns the user that failure to follow the information in the note could result in loss of data. Be sure to carefully read a Caution note and follow the advice/instructions.



Warning A Warning alerts you about potential physical harm to the user or hardware. It is critical that you pay strict attention to Warning notes, read the information carefully, and follow the advice, instructions.



Tip A Tip provides the user with extra hints/suggestions to make a task easier to perform or a concept easier to understand.



Note A Note supplies generic information to the user. The user can ignore the information and continue a task without suffering any adverse consequences.

Contents

Chapter 1 100G Datalogging Gas Endpoint	1
Transmission Modes	1
Specifications	2
Related Documents	2
Meter Compatibility List	2
Installation Prerequisites	7
Installation Overview	9
Chapter 2 Elster American Meter Installation	10
Programming the 100G Datalogging Gas Endpoint Assembly	15
Attaching the 100G Datalogging Gas Endpoint Assembly to the Meter	16
Chapter 3 Sensus/Rockwell Meter Installation	19
Programming the 100G Datalogging Gas Endpoint Assembly	23
Attaching the 100G Datalogging Gas Endpoint Assembly to the Sensus Meter	25
Chapter 4 Itron/Sprague Meter Installation	28
Programming the 100G Datalogging Gas Endpoint Assembly	31
Attaching the 100G Datalogging Gas Endpoint Assembly to the Meter	32
Attaching the 100G Datalogging Gas Endpoint Assembly to Flat-faced Sprague Meters	35
Securing Brass Meter Tags to Flat-faced Meters	39
Chapter 5 National/Lancaster Meter Installation.....	42
Programming the 100G Datalogging Gas Endpoint Assembly	48
Attaching the 100G Datalogging Gas Endpoint Assembly to the Meter	49
Chapter 6 Elster American and Itron Actaris Commercial Meter Installation.....	52
Removing the Index/ Index Assembly from the Meter	52
Programming the 100G Datalogging Commercial Gas Endpoint	55
Installing the 100G Datalogging Commercial Gas Endpoint on an Itron/Actaris Commercial Meter	62
Chapter 7 Sensus/Rockwell Commercial Meter Installation	68
Removing the Index/ Index Assembly from the Meter	68
Programming the 100G Datalogging Gas Endpoint.....	70
Attaching the 100G Datalogging Commercial Endpoint to a Sensus/Rockwell Commercial Diaphragm Meter	71
Mounting a on a Rockwell 750 meter with an Aluminum BOX Direct Reading (VDR)	75

Chapter 8 Dresser ROOTS® Commercial Rotary Meter Installation	80
Installation Prerequisites	80
Installation Examples	81
Programming the 100G Datalogging Gas Endpoint Assembly	82
B3, LMMA, and S3A CTR/TC Dresser ROOTS® Series Register Settings and Direct Drive Programming Information	83
B3, LMMA and S3A CTR/TC Meter Drive Rates: Residential Direct Drive Programming* ...	84
Installing the Residential 100G Datalogging Gas Endpoint Assembly to the Dresser ROOTS® Rotary Meter	85
Installing the 100G Datalogging Commercial Gas Endpoint on a Dresser ROOTS® Rotary Meter with an Instrument Drive	86
Programming the 100G Datalogging Commercial Gas Endpoint Assembly	88
B3, LMMA, and S3A CD/TD Dresser ROOTS® Series Meter Drive Rates	90
To attach the 100G Datalogging commercial gas endpoint to the meter	91
Completed Installation Examples	94
 Index	 95

100G Datalogging Gas Endpoint

Itron 100G Datalogging gas endpoints are radio-frequency (RF) devices designed to transmit meter data to an RF meter reading device within transmission distance of the endpoint. 100G Datalogging gas endpoints have the same increased output power as the first generation 100G gas endpoints for greater RF transmission distance. The 100G direct-mount endpoint reads and transmits a Standard Consumption Message (SCM) with magnetic-tamper and tilt-tamper data. The Itron 100G Datalogging gas endpoint adds functionality by storing up to 40 days of hourly data.

This installation guide provides step-by-step instructions for installing the 100G gas endpoint and the 100G Datalogging gas endpoint on a wide variety of meters. This installation guide refers to both 100G endpoint versions as the 100G Datalogging gas endpoint. Mechanical installation procedures are identical for both modules. 100G Datalogging gas endpoint compatible meters are listed in the Meter Compatibility List.

Transmission Modes

The 100G Datalogging gas endpoint can be set to transmit in Fixed Network, Mobile and Handheld, or Hard to Read Mobile and Handheld Mode.

- **Fixed Network Mode** The 100G Datalogging gas endpoint transmits a high-powered RF message every 60 seconds. Output power in this mode is 250 milliwatts or +24 dBm; expected battery life is 20 years.
- **Mobile and Handheld Mode** The 100G Datalogging gas endpoint transmits a medium-powered RF message every 15 seconds. Output power in this mode is 10 milliwatts or +10dBm; expected battery life is 20 years.
- **(Optional) Hard to Read Mobile and Handheld Mode** The 100G Datalogging gas endpoint transmits a high-powered RF message every 30 seconds. Output power in this mode is 250 milliwatts or +24dBm; expected battery life decreases to 15 years in this mode. The *Hard to Read Mobile and Handheld Mode* should only be used for exceptionally hard-to-read applications (such as meters installed on roof tops or in sub-basements).

An FCC license is not required to read 100G Datalogging gas endpoint.

Specifications

Functional Specifications	Description
Power Source 100G 100G Datalogging	Two "A" cell lithium batteries One "A" cell lithium battery
Tamper Detection	Tilt tamper and magnetic tamper
FCC Compliance	Part 15 certified
Industry Canada Compliance	RSS-210 certified
Intrinsically Safe per	UL Class I, Division 1, Groups C and D
Product Identification	Numeric and barcoded endpoint type and serial number
Construction Materials	Gray polycarbonate housing and back plate with encapsulated electronics
Operational Specifications	Description
Operating Temperatures	-40° to 158° F (-40° to +70° C)
Operating Humidity	5 to 95 percent relative humidity
Program Frequency	908 MHz
Transmit Frequency	Spread spectrum 908 to 924 MHz ISM band
Data Integrity	Verified in every data message

Related Documents

Document Title	Document Part Number
Gas Endpoint Meter Compatibility List	PUB-0117-002
Gas Endpoint Ordering Guide	PUB-0117-001
100G Datalogging Specification Sheet	Publication 100941SP-XX
Endpoint Link® Programming Guide	TDC-0744

Meter Compatibility List

This table lists meters compatible with the 100G Datalogging gas endpoint. Due to continuous research, product improvements, and enhancements, Itron reserves the right to change this list without notice.



Note On rare occasions the location of endpoint-to-meter mounting holes on older diaphragm gas meters might not match up with the mounting holes on the 100G Datalogging gas endpoint. This can prevent the 100G Datalogging gas endpoint from properly mounting to the meter.

100G Series Meter Compatibility List

Mfg.	Model	Description	Class	Comments	Endpoint Type	Endpoint Part No.
Elster American/ Canadian	W75AL		Residential	Aluminum case meters only	100G 100G Datalogging	ERG-5000-001 ERG-5002-001
Elster American/ Canadian	AL-175		Residential	Aluminum case meters only	100G 100G Datalogging	ERG-5000-001 ERG-5002-001
Elster American/ Canadian	AC-175		Residential	Aluminum case meters only	100G 100G Datalogging	ERG-5000-001 ERG-5002-001
Elster American/ Canadian	AT-175		Residential	Aluminum case meters only	100G 100G Datalogging	ERG-5000-001 ERG-5002-001
Elster American/ Canadian	ALC-175		Residential	Aluminum case meters only	100G 100G Datalogging	ERG-5000-001 ERG-5002-001
Elster American/ Canadian	AT-210		Residential	Aluminum case meters only	100G 100G Datalogging	ERG-5000-001 ERG-5002-001
Elster American/ Canadian	AL-225	Canada only	Residential	Aluminum case meters only	100G 100G Datalogging	ERG-5000-001 ERG-5002-001
Elster American/ Canadian	AC-250		Residential	Aluminum case meters only	100G 100G Datalogging	ERG-5000-001 ERG-5002-001
Elster American/ Canadian	AL-250		Residential	Aluminum case meters only	100G 100G Datalogging	ERG-5000-001 ERG-5002-001
Elster American/ Canadian	AM-250		Residential	Aluminum case meters only	100G 100G Datalogging	ERG-5000-001 ERG-5002-001
Elster American/ Canadian	AR-250		Residential	Aluminum case meters only	100G 100G Datalogging	ERG-5000-001 ERG-5002-001
Elster American/ Canadian	AT-250		Residential	Aluminum case meters only	100G 100G Datalogging	ERG-5000-001 ERG-5002-001
Elster American/ Canadian	AL-310		Residential	Aluminum case meters only	100G 100G Datalogging	ERG-5000-001 ERG-5002-001
Elster American/ Canadian	AL-350		Residential	Aluminum case meters only	100G 100G Datalogging	ERG-5000-001 ERG-5002-001
Elster American/ Canadian	AT-350		Residential	Aluminum case meters only	100G 100G Datalogging	ERG-5000-001 ERG-5002-001
Elster American/ Canadian	AL-425		Residential	Aluminum case meters only	100G 100G Datalogging	ERG-5000-001 ERG-5002-001
Elster American/ Canadian	AC-630		Residential	Aluminum case meters only	100G 100G Datalogging	ERG-5000-001 ERG-5002-001
Elster American/ Canadian	5B 225	Aluminum case	Residential		100G 100G Datalogging	ERG-5000-001 ERG-5002-001
Elster American/ Canadian	35B	Iron case	Commercial		100G 100G Datalogging	ERG-5000-007 ERG-5002-007
Elster American/ Canadian	60B	Iron case	Commercial		100G 100G Datalogging	ERG-5000-007 ERG-5002-007
Elster American/ Canadian	80B	Iron case	Commercial	Must have front reading index.	100G 100G Datalogging	ERG-5000-007 ERG-5002-007
Elster American/ Canadian	250B	Iron case	Commercial		100G 100G Datalogging	ERG-5000-007 ERG-5002-007
Elster American/ Canadian	500B	Iron case	Commercial		100G 100G Datalogging	ERG-5000-007 ERG-5002-007
Elster American/ Canadian	AL800		Commercial	Aluminum case meters only	100G 100G Datalogging	ERG-5000-007 ERG-5002-007

Mfg.	Model	Description	Class	Comments	Endpoint Type	Endpoint Part No.
Elster American/ Canadian	AL1000		Commercial	Aluminum case meters only	100G 100G Datalogging	ERG-5000-007 ERG-5002-007
Elster American/ Canadian	AL1400		Commercial	Aluminum case meters only	100G 100G Datalogging	ERG-5000-007 ERG-5002-007
Elster American/ Canadian	AL2300		Commercial	Aluminum case meters only	100G 100G Datalogging	ERG-5000-007 ERG-5002-007
Elster American/ Canadian	AL3000		Commercial	Aluminum case meters only	100G 100G Datalogging	ERG-5000-007 ERG-5002-007
Elster American/ Canadian	AL5000		Commercial	Aluminum case meters only	100G 100G Datalogging	ERG-5000-007 ERG-5002-007
Sensus/Invensys/ Equimeter/Rockwell	R-175	11-tooth	Residential	24- and 30-tooth gears are not compatible.	100G 100G Datalogging	ERG-5000-002 ERG-5002-002
Sensus/Invensys/ Equimeter/Rockwell	R-200	11-tooth	Residential		100G 100G Datalogging	ERG-5000-002 ERG-5002-002
Sensus/Invensys/ Equimeter/Rockwell	RT-200	11-tooth	Residential		100G 100G Datalogging	ERG-5000-002 ERG-5002-002
Sensus/Invensys/ Equimeter/Rockwell	RC-225	11-tooth (Canada only)	Residential	24- and 30-tooth gears are not compatible.	100G 100G Datalogging	ERG-5000-002 ERG-5002-002
Sensus/Invensys/ Equimeter/Rockwell	RT-225	11-tooth	Residential	24- and 30-tooth gears are not compatible.	100G 100G Datalogging	ERG-5000-002 ERG-5002-002
Sensus/Invensys/ Equimeter/Rockwell	RC-230	11-tooth	Residential	24- and 30-tooth gears are not compatible.	100G 100G Datalogging	ERG-5000-002 ERG-5002-002
Sensus/Invensys/ Equimeter/Rockwell	RCM-230 (RC-230 Metric)	16-tooth	Residential	24- and 30-tooth gears are not compatible.	100G 100G Datalogging	ERG-5000-003 ERG-5002-003
Sensus/Invensys/ Equimeter/Rockwell	RT-230	11-tooth	Residential		100G 100G Datalogging	ERG-5000-002 ERG-5002-002
Sensus/Invensys/ Equimeter/Rockwell	R-275	11-tooth	Residential	24- and 30-tooth gears are not compatible.	100G 100G Datalogging	ERG-5000-002 ERG-5002-002
Sensus/Invensys/ Equimeter/Rockwell	RT-275	11-tooth	Residential		100G 100G Datalogging	ERG-5000-002 ERG-5002-002
Sensus/Invensys/ Equimeter/Rockwell	S-275 (side connection)	11-tooth	Residential	24- and 30-tooth gears are not compatible.	100G 100G Datalogging	ERG-5000-002 ERG-5002-002
Sensus/Invensys/ Equimeter/Rockwell	R-315	11-tooth	Residential	24- and 30-tooth gears are not compatible.	100G 100G Datalogging	ERG-5000-002 ERG-5002-002
Sensus/Invensys/ Equimeter/Rockwell	250	11-tooth	Residential	24- and 30-tooth gears are not compatible.	100G 100G Datalogging	ERG-5000-002 ERG-5002-002
Sensus/Invensys/ Equimeter/Rockwell	310	11-tooth	Residential		100G 100G Datalogging	ERG-5000-002 ERG-5002-002
Sensus/Invensys/ Equimeter/Rockwell	S-110	11-tooth	Residential		100G 100G Datalogging	ERG-5000-002 ERG-5002-002
Sensus/Invensys/ Equimeter/Rockwell	S-200	11-tooth	Residential		100G 100G Datalogging	ERG-5000-002 ERG-5002-002
Sensus/Invensys/ Equimeter/Rockwell	S-175	18-tooth	Residential	24- and 30-tooth gears are not compatible.	100G 100G Datalogging	ERG-5000-004 ERG-5002-004
Sensus/Invensys/ Equimeter/Rockwell	RT-100	18-tooth	Residential	24- and 30-tooth gears are not compatible.	100G 100G Datalogging	ERG-5000-004 ERG-5002-004
Sensus/Invensys/ Equimeter/Rockwell	S-190	18-tooth	Residential	24- and 30-tooth gears are not compatible.	100G 100G Datalogging	ERG-5000-004 ERG-5002-004
Sensus/Invensys/ Equimeter/Rockwell	S-120	11-tooth	Residential		100G 100G Datalogging	ERG-5000-002 ERG-5002-002

100G Datalogging Gas Endpoint

Mfg.	Model	Description	Class	Comments	Endpoint Type	Endpoint Part No.
Sensus/Invensys/ Equimeter/Rockwell	T-120	11-tooth	Residential		100G 100G Datalogging	ERG-5000-002 ERG-5002-002
Sensus/Invensys/ Equimeter/Rockwell	T-110	11-tooth	Residential		100G 100G Datalogging	ERG-5000-002 ERG-5002-002
Sensus/Invensys/ Equimeter/Rockwell	415	18-tooth	Residential	Older meters may have endpoint-to-meter mounting hole variations that can make them incompatible.	100G 100G Datalogging	ERG-5000-004 ERG-5002-004
Sensus/Invensys/ Equimeter/Rockwell	RT-360	18-tooth	Residential		100G 100G Datalogging	ERG-5000-004 ERG-5002-004
Sensus/Invensys/ Equimeter/Rockwell	MR-5 (S-275 Metric)	16-tooth	Residential	24- and 30-tooth gears are not compatible.	100G 100G Datalogging	ERG-5000-003 ERG-5002-003
Sensus/Invensys/ Equimeter/Rockwell	MR-8 (R-275 Metric)	16-tooth	Residential		100G 100G Datalogging	ERG-5000-003 ERG-5002-003
Sensus/Invensys/ Equimeter/Rockwell	MR-9 (R-315 Metric)	16-tooth	Residential	24- and 30-tooth gears are not compatible.	100G 100G Datalogging	ERG-5000-003 ERG-5002-003
Sensus/Invensys/ Equimeter/Rockwell	MR-12 (415 Metric)	16-tooth	Residential		100G 100G Datalogging	ERG-5000-003 ERG-5002-003
Sensus/Invensys/ Equimeter/Rockwell	750		Commercial	Vertical index only.	100G 100G Datalogging	ERG-5000-008 ERG-5002-008
Sensus/Invensys/ Equimeter/Rockwell	1000		Commercial	Vertical index only	100G 100G Datalogging	ERG-5000-008 ERG-5002-008
Sensus/Invensys/ Equimeter/Rockwell	1600		Commercial	Vertical index only	100G 100G Datalogging	ERG-5000-008 ERG-5002-008
Sensus/Invensys/ Equimeter/Rockwell	3000		Commercial	Vertical index only	100G 100G Datalogging	ERG-5000-008 ERG-5002-008
Sensus/Invensys/ Equimeter/Rockwell	5000		Commercial	Vertical index only	100G 100G Datalogging	ERG-5000-008 ERG-5002-008
Sensus/Invensys/ Equimeter/Rockwell	10000		Commercial	Vertical index only	100G 100G Datalogging	ERG-5000-008 ERG-5002-008
Sensus/Invensys/ Equimeter/Rockwell	750, 1000, 1600, 3000, 5000, 10000	Aluminum Box Direct Reading (VDR) Index	Commercial	Requires SCR-0062-001 mounting screws (to be purchased separately).	100G 100G Datalogging	ERG-5000-008 ERG-5002-008
National/ Lancaster	175		Residential	Itron/Srague/ Schlumberger/ Actaris direct-read (odometer) indexes cannot be used. National indexes with bow-tie shaped wiggler cannot be used.	100G 100G Datalogging	ERG-5000-006 ERG-5002-006
National/ Lancaster	U175/UL175		Residential	Itron/Srague/ Schlumberger/ Actaris direct-read (odometer) indexes cannot be used. National indexes with bow-tie shaped wiggler cannot be used.	100G 100G Datalogging	ERG-5000-006 ERG-5002-006
National/ Lancaster	250		Residential	Itron/Srague/ Schlumberger/ Actaris direct-read (odometer) indexes cannot be used. National indexes with bow-tie shaped wiggler cannot be used.	100G 100G Datalogging	ERG-5000-006 ERG-5002-006

100G Datalogging Gas Endpoint

Mfg.	Model	Description	Class	Comments	Endpoint Type	Endpoint Part No.
Itron/Actaris/ Schlumberger/ Sprague	175	3-hole index cover 2-hole index cover	Residential	Index covers with 3 mounting holes	100G 100G Datalogging	ERG-5000-005 ERG-5002-005
Itron/Actaris/ Schlumberger/ Sprague	175 WC	3-hole index cover	Residential	Index boxes with 3 mounting holes	100G 100G Datalogging	ERG-5000-005 ERG-5002-005
Itron/Actaris/ Schlumberger/ Sprague	175 Combination	3-hole index cover Integrated regulator	Residential	Index boxes with 3 mounting holes	100G 100G Datalogging	ERG-5000-005 ERG-5002-005
Itron/Actaris/ Schlumberger/ Sprague	210		Residential		100G 100G Datalogging	ERG-5000-005 ERG-5002-005
Itron/Actaris/ Schlumberger/ Sprague	240	Canadian Version of 250	Residential		100G 100G Datalogging	ERG-5000-005 ERG-5002-005
Itron/Actaris/ Schlumberger/ Sprague	240 Combination	Integrated regulator	Residential		100G 100G Datalogging	ERG-5000-005 ERG-5002-005
Itron/Actaris/ Schlumberger/ Sprague	240		Residential		100G 100G Datalogging	ERG-5000-005 ERG-5002-005
Itron/Actaris/ Schlumberger/ Sprague	240	1-hole index cover flat face meter	Residential	Requires Itron 1A Adapter Kit, CFG-0015-001 Kit	100G 100G Datalogging	ERG-5000-005 + CFG-0015-001 ERG-5002-005 CFG-0015-001
Itron/Actaris/ Schlumberger/ Sprague	240	2-hole index cover	Residential		100G 100G Datalogging	ERG-5000-005 ERG-5002-005
Itron/Actaris/ Schlumberger/ Sprague	250		Residential		100G 100G Datalogging	ERG-5000-005 ERG-5002-005
Itron/Actaris/ Schlumberger/ Sprague	250 WC		Residential		100G 100G Datalogging	ERG-5000-005 ERG-5002-005
Itron/Actaris/ Schlumberger/ Sprague	250 Combination	Integrated regulator	Residential		100G 100G Datalogging	ERG-5000-005 ERG-5002-005
Itron/Actaris/ Schlumberger/ Sprague	1A	Flat face meter, Includes 3-dial, 2cf indexes.	Residential	Requires Itron 1A Adapter Kit, CFG-0015-001	100G 100G Datalogging	ERG-5000-005 +CFG- 0015-001 ERG-5002-005 +CFG-0015-001
Itron/Actaris/ Schlumberger/ Sprague	METRIS 250	Slant-face meter	Residential		100G 100G Datalogging	ERG-5000-005 ERG-5002-005
Itron/Actaris/ Schlumberger/ Sprague	305 Combination	Integrated regulator	Residential		100G 100G Datalogging	ERG-5000-005 ERG-5002-005
Itron/Actaris/ Schlumberger/ Sprague	400	Slant-face meter	Residential		100G 100G Datalogging	ERG-5000-005 ERG-5002-005
Itron/Actaris/ Schlumberger/ Sprague	400A	Slant-face meter	Residential		100G 100G Datalogging	ERG-5000-005 ERG-5002-005
Itron/Actaris/ Schlumberger/ Sprague	675A	Top-mount index	Commercial	Requires Itron/Actaris adapter p/n 80005901-001; purchase from Itron/Actaris	100G 100G Datalogging	ERG-5000-007 ERG-5002-007
Itron/Actaris/ Schlumberger/ Sprague	800A	Top-mount index	Commercial	Requires Itron/Actaris adapter p/n 80005901-001; purchase from Itron/Actaris	100G 100G Datalogging	ERG-5000-007 ERG-5002-007
Itron/Actaris/ Schlumberger/ Sprague	1000A	Top-mount index	Commercial	Requires Itron/Actaris adapter p/n 80005901-001; purchase from Itron/Actaris	100G 100G Datalogging	ERG-5000-007 ERG-5002-007

Mfg.	Model	Description	Class	Comments	Endpoint Type	Endpoint Part No.
EMCO	#2 ½		Commercial		100G 100G Datalogging	ERG-5000-008 ERG-5002-008
EMCO	#3		Commercial		100G 100G Datalogging	ERG-5000-008 ERG-5002-008
EMCO	#4		Commercial		100G 100G Datalogging	ERG-5000-008 ERG-5002-008
EMCO	#4 ½		Commercial		100G 100G Datalogging	ERG-5000-008 ERG-5002-008
EMCO	#5		Commercial		100G 100G Datalogging	ERG-5000-008 ERG-5002-008
Dresser ROOTS	Series B3 8C - 56M 8C - 16M	CTR TC (No pulser No instrument drive)	Commercial	To attach an Elster American endpoint, install Dresser's Elster American AMR adapter kit.	100G 100G Datalogging Dresser adapter P/N 059599-000	ERG-5000-001 ERG-5002-001
Dresser ROOTS	Series A1 (LMMA) 1.5M - 5M	CTR (No pulser No instrument drive)	Commercial	To attach an Elster American endpoint, install Dresser's Elster American AMR adapter kit.	100G 100G Datalogging Dresser adapter P/N 058530-610	ERG-5000-001 ERG-5002-001
Dresser ROOTS	Series A1 (LMMA) 7M - 16M	CTR (No pulser No instrument drive)	Commercial	To attach an Elster American endpoint, install Dresser's Elster American adapter kit.	100G 100G Datalogging Dresser adapter P/N 058531-610	ERG-5000-001 ERG-5002-001
Dresser ROOTS	Series A1 (LMMA) 1.5M - 16M	TC (No pulser No instrument drive)	Commercial	To attach an Elster American endpoint, install Dresser's Elster American AMR adapter kit.	100G 100G Datalogging Dresser adapter P/N 058224-641	ERG-5000-001 ERG-5002-001
Dresser ROOTS	5C/8C15	Series Z compact meter	Commercial	To attach an Elster American endpoint, install Dresser's Elster American adapter kit.	100G 100G Datalogging Dresser adapter P/N 059847-000	ERG-5000-001 ERG-5002-001
Dresser ROOTS	B3/LMMA	Instrument drive	Commercial	Standard index drive and no instrument.	100G 100G Datalogging	ERG-5000-007 ERG-5002-007

Installation Prerequisites

Prior to installation, verify you have the following items:

- 100G Datalogging gas endpoints designed for your specific brand of residential or commercial gas meters (endpoints include new tamper seals).
- A compatible meter (see the [Meter Compatibility List](#) on page 2).
- A compatible index. Itron 100G Datalogging gas endpoints are compatible with standard dial and direct-read (odometer) indexes. Exceptions are noted on the [Meter Compatibility List](#) on page 2.
- Installation tools (provided by installer or customer)
 - Small and medium flat-blade or Phillips screwdrivers - to remove and tighten index and index-cover screws.
 - Side-cutting plier/wire snips - to cut wire seals, if applicable.

- Small putty knife - residential meters.
- Meter seals, wire seal, and seal press - to protect the meter from tampering, if applicable.
- 11/32-inch nut driver or other blunt tool - to securely seat new tamper plugs over screw holes.
- Itron programming device to program and check 100G Datalogging gas endpoint installation and operation:
 - FC200SR handheld computer with Endpoint-Link or Endpoint-Link Pro software version 5.3 or higher *or*
 - FC300 with SRead with Endpoint-Link or Endpoint Link Pro version 5.5 or higher *or*
 - 900 MHz Belt Clip Radio with Endpoint-Link version 5.5 or higher and a customer-supplied laptop
- Replacement screws - to mount the 100G Datalogging gas endpoint assembly to the meter and the index to the endpoint housing:

Replacement Screws				
Meter	To mount the 100G Datalogging gas endpoint on the meter:	Itron Part Number	To mount the index on the 100G Datalogging gas endpoint housing:	Itron Part Number
Elster American	1/4 - 20 x 5/8" slotted, Fillister head		8 - 32 x 3/16" slotted, Fillister head	
Sensus/Rockwell	10 - 24 x 5/8" slotted, Fillister head		6 - 32 x 5/8" slotted, Fillister head	
Itron/Sprague	10 - 24 x 5/8" slotted, Fillister head		10 - 24 x 1/4" slotted, Fillister head	
National/Lancaster	10 - 24 x 3/4" Phillips, flat-head, stainless steel	SCR-0014-004	10 - 24 x 3/8" thread-forming, Phillips pan-head to mount indexes with legs 6 - 19 x 3/8" thread-forming, Phillips, Fillister head to mount indexes with screw holes	SCR-0017-001 SCR-0037-001
Commercial Meter	To mount the 100G Datalogging commercial endpoint on the meter:	Itron Part Number	To mount the index (and index assembly, if applicable) on the 100G Datalogging commercial endpoint housing:	Itron Part Number
Elster American	2A x 3.25" length, slotted round-head drilled to accept utility-approved wire seals	SCR-0062-001	12 - 24 x 1/2" slotted, Fillister head machine screws, drilled to accept utility-approved wire seals	
Sensus/Rockwell	2A x 3.63" length, slotted round-head drilled to accept utility-approved wire seals	SCR-0062-002	2A x 2.94" length, slotted round-head	SCR-0062-003
Sensus/Rockwell	For Aluminum Box Direct Reading (VDR) index only			

Installation Overview

Installing the 100G Datalogging gas endpoint on a meter involves four tasks:

1. Removing the index cover and index from the 100G Datalogging gas endpoint.
2. Assembling the 100G Datalogging gas endpoint and index.
3. Programming the 100G Datalogging gas endpoint assembly.
4. Attaching the 100G Datalogging gas endpoint to the meter.

CHAPTER 2

Elster American Meter Installation

This chapter provides the instructions to install the 100G Datalogging gas endpoint on an Elster American Meter.



- Note** Properly dispose all unused screws, old index covers, gaskets, tamper seals, and other leftover materials. Do not leave materials on customer premises.

To remove the index from the meter

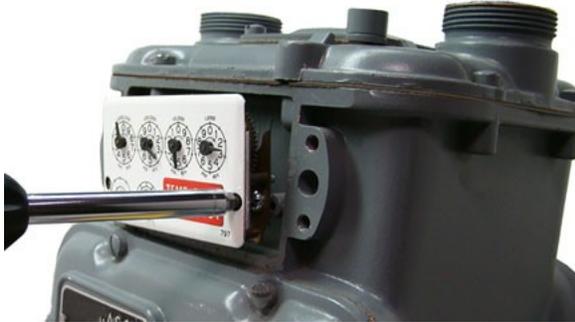
1. Remove the four index cover screws and the index cover from the Elster American meter. Alternate screw removal following the numbered pattern in the photo.



2. Examine the mounting screws. If they are 5/8" long and not corroded, keep them to re-attach the 100G Datalogging gas endpoint assembly. If the screws are not the correct length or if the screws are corroded, discard.

- Note** You may use the removed index cover as a temporary storage container for screws. Properly dispose all unused screws, old index covers, gaskets, tamper seals, and other leftover materials. Do not leave materials on customer premises.

3. Unscrew one index mounting screw completely. Hold one hand under the index to catch the screw. While removing the other mounting screw, pull the index away from the meter to keep the index backplate against the back of the screw. Remove the screw completely after the index is free of the meter.



Set the index aside where it will not be damaged or fill with dirt, rain or snow. The index will be mounted to the endpoint later in this procedure. Verify the index mounting screws are 3/16" long and not corroded. If the screws are the correct length and not corroded, retain for later use. If the original screws were discarded, use the correct replacement screws (see [Installation Prerequisites](#) on page 7.)

4. Remove the old gasket, gasket residue and dirt from the meter (if applicable). The meter face must be free of gasket residue before you install the 100G Datalogging gas endpoint.



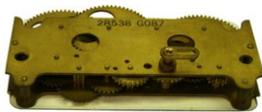
To assemble the 100G Datalogging gas endpoint and index

1. Separate the 100G Datalogging gas endpoint housing from the cover by pulling the cover straight out from the housing.



2. Set the endpoint cover aside where it will not be damaged or fill with rain, dirt or snow. The cover will be used later in this installation procedure.

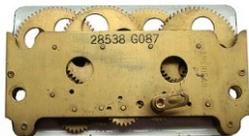
 **Note** Elster American Meter indexes are available in different models:



Index wrigglers on one-foot meters with drive slots



Index meters on two-foot meters with drive posts



An Elster American index with mounting screw holes



An Elster American index with mounting slots

If your index has mounting screw slots, skip steps 3 and 4. If your index has mounting screw holes, perform steps 3 and 4, and skip steps 5 and 6.

- Using the original index mounting screw or a replacement screw, if necessary, place one 8 - 32 3/16" screw into the index's right-hand mounting screw hole.



- Attach the screw to the endpoint housing's right-index mounting post just enough to hold the screw and the right end of the index in place.



- Screw one 8 - 32 x 3/16" screw into the right index mounting post one or two turns. Do not tighten the screw.
- Place the right index mounting screw slot under the screw head. Do not tighten the screw.
- Slide the index drive post into the endpoint wiggler. Verify positive engagement.



Caution If the index wiggler has a drive slot, place the endpoint wiggler's drive post into the index drive slot. Failure to mate the endpoint wiggler with the index drive post (or slot) can cause binding and lead to poor registration or meter failure.

8. Install and tighten the left index mounting screw (for indexes with either mounting screw slots or holes). Tighten the right index mounting screw. Install and tighten index mounting screws evenly.



9. Slide the endpoint cover over the index and housing. The endpoint label should be clearly visible and easily read.



Programming the 100G Datalogging Gas Endpoint Assembly

Program the 100G Datalogging gas endpoints using:

- A FC200SR handheld computer with Endpoint-Link® or Endpoint-Link Pro version 5.3 or higher *or*
- A FC300 with SRead handheld computer with Endpoint-Link or Endpoint-Link Pro version 5.5 or higher *or*
- A 900MHz Belt Clip Radio with Endpoint-Link version 5.5 or higher and a customer-supplied laptop. The Belt Clip Radio connects to the user-supplied laptop using a USB cable or Bluetooth.

See the Endpoint-Link v5.3 (or higher) Endpoint Programming Guide (TDC-0744) for more complete programming information.



FC200SR

FC300 with SRead

900MHz Belt Clip Radio



Caution The 100G Datalogging gas endpoint must be programmed before use. Follow the steps in this section to properly program the endpoint.

The endpoint is programmed based on the meter's drive rate. Take note of the index drive rate shown on a lower left dial on the index. The endpoint is programmed based on the drive rate. Elster American meter index drive rates are either 1-cubic foot, 2-cubic feet or 0.05 cubic meters (not shown below).



To program the 100G Datalogging gas endpoint

1. Program the meter drive rate into the 100G Datalogging gas endpoint using the endpoint programming device. For all programming and "Check Endpoint" operations, hold the handheld programmer as close to vertical as possible. For best success, keep the handheld programmer within 6 feet of the target endpoint. Verify you have the correct programming mode (Fixed Network Mode, Mobile/Handheld Mode, or Hard to Read Mobile/Handheld Mode) for your application. Programming parameters are based on the configuration file loaded into the endpoint programming device. During programming, the 100G Datalogging gas endpoint is set to the nearest 100 cubic feet; the last two digits (tens and units) are programmed as zeros (0). After programming is complete, the endpoint assembly will read to the nearest cubic foot.
2. Slowly turn the endpoint's drive wriggler two turns in the direction shown on the index drive rate. This verifies the endpoint is counting properly after assembly.



Caution Do not turn the drive wriggler faster than one turn per second.

3. **Read** or **Check** the 100G Datalogging gas endpoint using the endpoint programming device.
 - If the read result is higher than the number programmed in Step 1, the 100G Datalogging gas endpoint is counting correctly.
 - If the read result is not higher than the number programmed in Step 1, replace the 100G Datalogging gas endpoint.

Attaching the 100G Datalogging Gas Endpoint Assembly to the Meter

After programming the 100G Datalogging gas endpoint, attach the endpoint assembly to the Elster American Meter.



Warning For 5B Meters only: If the 100G Datalogging gas endpoint will be installed on a 5B-225 aluminum meter, cut 1/16" off each endpoint wriggler post to prevent the wriggler from rubbing on the face of the nut holding the meter drive dog in place.



To attach the 100G Datalogging gas endpoint to the meter

1. Align the endpoint wriggler to connect with the drive post (or slot) of the meter.



- For one-foot meters: Align the endpoint assembly wriggler perpendicular to the meter drive post.
 - For two-foot meters: Align the endpoint assembly wriggler perpendicular to the meter drive slot. The pin on the endpoint wriggler may be installed inside or outside the meter drive slot. For easy assembly, Itron recommends installing the pin on the 100G Datalogging gas endpoint wriggler outside the meter drive slot.
2. Carefully align the endpoint's four screw holes with the holes on the meter. Attach using the original mounting screws if they are the correct size and are not corroded (1/4 - 20 x 5/8" screws.) If the original screws were discarded, use the correct replacement screws (see [Installation Prerequisites](#) on page 7). Tighten in an alternating, diagonal pattern as shown in the photo:



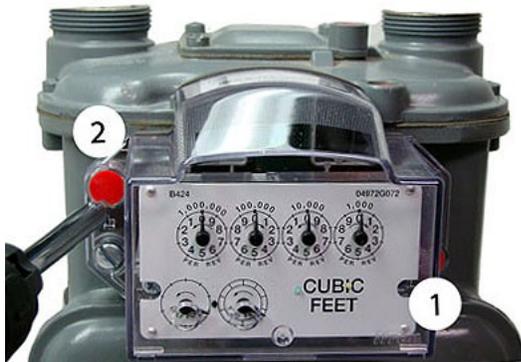
- Insert first screw and tighten 1/4 to 1/2 turn after the screw contacts the meter connection.
- Insert the second screw and tighten 1/4 to 1/2 turn after contact with the meter connection.
- Insert the third screw and tighten 1/4 to 1/2 turn after contact with the meter connection.
- Insert the last screw and tighten 1/4 to 1/2 turn after contact with the meter connection.

Return to the first screw and tighten. Continue with the second, third and last screws until all screws are tight. Use equal screw tension to tighten each screw.



Note Meter manufacturers: torque the mounting screws 15 to 20 inch-pounds.

- Place new tamper seals over the two screws with tamper seal mounts. Press tamper seals into place using an 11/32" nut driver or similar blunt tool.



- Complete necessary paperwork and verify all excess materials are removed from the customer's premises. 100G Datalogging gas endpoint installation on the Elster American meter is complete.



CHAPTER 3

Sensus/Rockwell Meter Installation

This chapter provides the instructions to install the 100G Datalogging gas endpoint on a Sensus/Rockwell Meter. These instructions apply to 11-tooth, 16-tooth, and 18-tooth Sensus 100G Datalogging gas endpoints.



Note Sensus meters are also known as Invensys, Equimeter, and Rockwell. For these instructions, all meter types are referred to as Sensus meters.



100G Datalogging gas endpoint



Sensus 11-tooth



Sensus 16-tooth



Sensus 18-tooth

To remove the index from the meter

1. Remove the four index cover screws and the index cover from the Sensus meter. Alternate screw removal following the numbered pattern as shown in the photo.



2. Examine the mounting screws. If they are 5/8" long and not corroded, keep them to attach the 100G Datalogging gas endpoint assembly. If the screws are not the correct length or if the screws are corroded, discard.



Note You may use the removed index cover as a temporary storage container for screws. Properly dispose all unused screws, old index covers, gaskets, tamper seals, and other leftover materials. Do not leave materials on customer premises.

3. Unscrew one index mounting screw completely. Hold one hand under the index to catch the screw. While removing the other mounting screw, pull the index away from the meter to keep the index backplate against the back of the screw. Remove the screw completely after the index is free of the meter.



4. Set the index aside where it will not be damaged or fill with dirt, rain or snow. The index will be mounted in the endpoint later in this procedure. Verify the index mounting screws are 5/8" long and not corroded. If the screws are the correct length and not corroded, retain for later use. If the original screws are discarded, use the correct replacement screws (see [Installation Prerequisites](#) on page 7.)
5. Remove the old gasket, gasket residue, and dirt from the meter (if applicable). The meter face must be free of gasket residue or dirt before you install the 100G Datalogging gas endpoint.

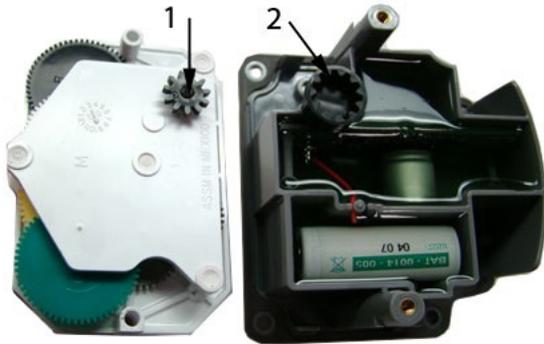


To assemble the 100G Datalogging gas endpoint and index

1. Separate the 100G Datalogging gas endpoint housing from the cover by pulling the cover straight out from the housing. Set the endpoint cover aside where it will not be damaged or fill with rain, dirt or snow. The cover is used later in this installation procedure.



2. Place the index drive gear (1) in the housing wiggler gear cup (2) of the endpoint. The example shows an 11-tooth drive gear. Your index may be a 16- or 18-tooth gear. Use the appropriate 100G Datalogging gas endpoint for your specific meter. See the [Meter Compatibility List](#) on page 2 for more information.



3. After the drive gear aligns with the wiggler gear, the mounting holes line up.



- Using the original index mounting screw or a replacement screw (if necessary), place one 6 - 32 5/8" screw into the index's right mounting screw hole. Attach the screw to the endpoint housing's right-index mounting post just enough to hold the screw and the right end of the index in place. Install and tighten the left index mounting screw. Tighten the right index mounting screw completely. Install and tighten index mounting screws evenly.



- Slide the endpoint cover over the index and housing. Verify the cover is installed correctly. The endpoint label should be clearly visible and easily read.



Programming the 100G Datalogging Gas Endpoint Assembly

100G Datalogging gas endpoints can be programmed using:

- A FC200SR handheld computer with Endpoint-Link® or Endpoint-Link Pro version 5.3 or higher *or*
- A FC300 with SRead handheld computer with Endpoint-Link or Endpoint-Link Pro version 5.5 or higher *or*
- A 900MHz Belt Clip Radio with Endpoint-Link version 5.5 or higher and a customer-supplied laptop. The Belt Clip Radio connects to the user-supplied laptop using a USB cable or Bluetooth.

See the Endpoint-Link v5.3 (or higher) Endpoint Programming Guide (TDC-0744) for more complete programming information.



FC200SR

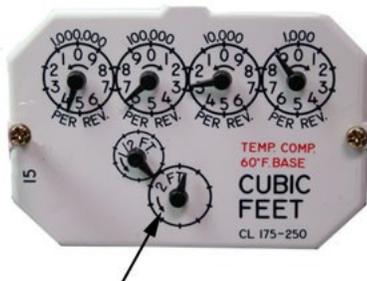
FC300 with SRead

900MHz Belt Clip Radio



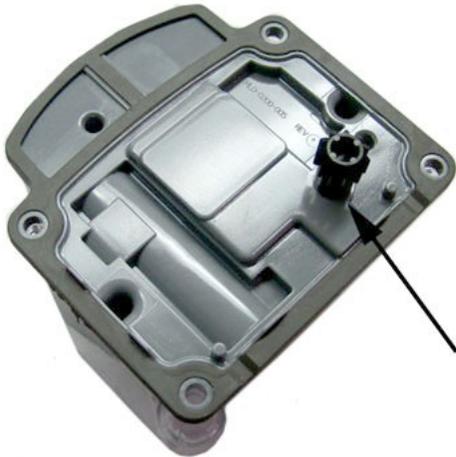
Caution The 100G Datalogging gas endpoint must be programmed before use. Follow the steps in this section to properly program the endpoint.

Take note of the index drive rate shown on a lower left dial on the index. The endpoint is programmed based on the drive rate. Sensus meter index drive rates are 2-cubic feet or 0.05 cubic meters.



To program the 100G Datalogging gas endpoint

1. Program the index drive rate into the 100G Datalogging gas endpoint using the endpoint programming device. For all programming and "Check Endpoint" operations, hold the handheld programmer as close to vertical as possible. For best success, keep the handheld programmer within 6 feet of the target endpoint. Verify you have the correct programming mode (Fixed Network Mode, Mobile/Handheld Mode, or Hard to Read Mobile/Handheld Mode) for your application. Programming parameters are based on the configuration file loaded into the endpoint programming device.
During programming, the 100G Datalogging gas endpoint is set to the nearest 100 cubic feet; the last two digits (tens and units) are programmed as zeros (0). After programming is complete, the endpoint assembly will read to the nearest cubic foot.
2. Slowly turn the endpoint's drive wiggler two turns in the direction shown on the index drive rate. This verifies the endpoint is counting properly after assembly.



Caution Do not turn the drive wiggler faster than one turn per second.

3. **Read** or **Check** the 100G Datalogging gas endpoint using the endpoint programming device.
 - If the read result is higher than the number programmed in Step 1, the 100G Datalogging gas endpoint is counting correctly.
 - If the read result is not higher than the number programmed in Step 1, replace the 100G Datalogging gas endpoint.

Attaching the 100G Datalogging Gas Endpoint Assembly to the Sensus Meter

After 100G Datalogging gas endpoint programming is complete, attach the endpoint assembly to the Sensus meter.

To attach the 100G Datalogging gas endpoint to the meter

1. Gently place the endpoint assembly against the front of the meter at angle.



2. Install and tighten endpoint-to-meter mounting screws in an alternating fashion.
 - Align the top right mounting screw-hole on the meter with the top right screw-hole on the endpoint. Insert the top-right cover mounting screw and tighten the screw enough to hold it in place. Do not completely tighten.
 - Rotate the endpoint assembly counterclockwise until the remaining three endpoint screw holes line up with the holes in the meter. Use the original mounting screws if they were the correct size and not corroded. If the original screws were discarded, use the correct replacement screws (see [Installation Prerequisites](#) on page 7).

- Install the remaining three mounting screws and tighten in the pattern shown in the photo.



- a. Insert lower left mounting screw and tighten to snug position.
- b. Tighten upper right mounting screw to snug position.
- c. Insert upper left mounting screw and tighten to snug position.
- d. Insert lower right mounting screw and tighten to snug position.

Tighten each mounting screw evenly.



Important Meter manufacturers: torque the mounting screws 15 to 20 inch-pounds.

3. Place a new tamper seal over the two screws with tamper seal cups. Press the new tamper seals into place using an 11/32-inch nut driver (or similar blunt tool).



4. Complete any necessary paperwork and properly dispose excess installation materials and scrap from the customer premises.

100G Datalogging gas endpoint installation on the Sensus Meter is complete.

