GAS TURBINE AND TRANSMITTER SYSTEMS
WITH ATEX ENCLOSURES

NEW®

SYS/FTBG-100 Series

MADE IN USA | 1 YEAR WARRANTY | NIST | CE | Ex

Standard

- Outstanding Accuracy
- Hybrid Ceramic Bearings for Superior Life
- DC or AC (Optional) Power
- Pulse and Analog Output
- Optional Hi and Lo Alarms
- Factory Configured
- Windows® Configuration Software (Included)

SYS/FTBG-101/FLSC-C3, shown smaller than actual size.

F

OMEGA's high accuracy Gas Turbine Series measures the volumetric flow of gas through a pipeline. Gas flowing through the meter turns the turbine rotor at an angular velocity which is proportional to the velocity of the gas being measured. As the turbine rotor turns, the rotor blades pass a non-intrusive pickup coil that generates an electrical signal, referred to as a pulse. Each pulse represents a specific volume of gas (i.e. ACF/AM3). The totalization of these pulses results in the total volumetric flow. The total volume can be converted to mass flow total (SCF or NM3) using reference conditions and base density, or by applying various correction techniques. Standard calibrations for these gas turbine systems are performed at a reference density of 0.1 lb/Ft^3. A 10-point calibration certificate (traceable to NIST or other recognized national laboratory) is supplied with each meter. Standard calibration includes a calculated K-factor for gas that is derived from a 10-point NIST calibration for water. Calibrations at customer's actual operating densities can be performed with special order.

OMEGA's gas turbine flowmeters offer high accuracy measurement of gases for a wide variety of applications, including fiscal measurement, plant cost allocation, energy consumption/conservation, etc. These gas turbine systems are suitable for all non-corrosive gases such as natural gas, air and nitrogen. Special versions of this series are available for use on corrosive gases, such as "off-gas" and feature NACE- MR175 trim and self-lubricated ceramic ball bearings. Contact OMEGA for further details.

An OMEGA® gas turbine flowmeter should be chosen so that it is operated within its most accurate range. The capacity of a turbine flowmeter is based on the actual volumetric flow rate and is expressed as actual cubic feet (ACF) or actual cubic meters (AM3). The lower limit of operation is a function of the gas density and velocity.

SPECIFICATIONS (TURBINE)

Over-range: 150% of maximum flow (intermittently)
Turn Down Range: Dependent on gas density at user's operating conditions
Linearity: ±1% of reading typical
Repeatability: ±0.25% over tabulated repeatable range
Available Temperature Range: -157 to 149°C (-250 to 300°F) continuous
End Fittings (Standard): NPT
Bearing Styles: Self-lubricating, ceramic hybrid ball bearings
Materials: 316/316L dual rated stainless steel with 17.4 pH rotor

FLSC-C3, shown smaller than actual size.

Specifications (Signal Conditioner)

Input Signal Type: MCP pickup
Input Frequency Range: 0.2 Hz to 4 KHz
Signal Level: 10 mV rms to 30 Vdc
Power Supply: 13 to 30 Vdc standard, 100 to 240 Vac (-AC) (optional), reverse polarity protection
Analog Output: 4 to 20 mA, 1 to 5V, 24 mA overflow condition (dip switch selectable)
Load Resistance: Maximum 650 Ω @ 24 Vdc
Accuracy: ±0.02% of full scale
Temperature Drift: 40 ppm/°C
Pulse Output: 0 to 5V
Recommended Minimum Load Resistance: 50 KΩ
Pulse Scaling: Divide by 1,10,100 per flow unit of measure
Hi/Lo Alarm (Optional): Relay (2A, 30 Vdc), 0 to 5V, open collector (0.5A, 30V)
Communications: RS232 port for configuration and diagnostics
Linearization: Up to 20 points
Operating Temperature: -40 to 85°C (-40 to 185°F)
Humidity: 0 to 90% non-condensing
Enclosure: Extruded aluminum explosion-proof ATEX
Port: ¾-14 NPT
Regulatory: CE compliant

To Order *Visit omega.com/sys_ftbg-100 for Pricing and Details*

Model Number	Description	Meter Size	NPT	Blade Angle	Nat Gas 2 to 3 psi @ 0.05lb/FT³ Range ACFM	Nat Gas 2 to 3 psi @ 0.05lb/FT³ Pressure Drop (PSID)	Air 35 to 40 psi @ 0.25lb/FT³ Range ACFM	Air 35 to 40 psi @ 0.25lb/FT³ Pressure Drop (PSID)	Maximum Pressure
SYS/FTBG-101/FLSC-C3	Gas turbine	¼	½	30°	0.3 to 1.6	0.1	0.13 to 1.6	0.5	6000 psi
SYS/FTBG-102/FLSC-C3	Gas turbine	¼	½	15°	0.65 to 3.5	0.02	0.35 to 3.5	0.1	
SYS/FTBG-103/FLSC-C3	Gas turbine	⅜	½	30°	0.6 to 2.3	0.1	0.27 to 2.3	0.5	
SYS/FTBG-104/FLSC-C3	Gas turbine	⅜	½	15°	1.3 to 5	0.02	0.6 to 5	0.1	
SYS/FTBG-105/FLSC-C3	Gas turbine	⅝	¾	30°	1 to 4.4	0.1	0.45 to 4.4	0.5	4400 psi
SYS/FTBG-106/FLSC-C3	Gas turbine	⅝	¾	15°	2.17 to 9.5	0.025	1 to 10	0.125	
SYS/FTBG-107/FLSC-C3	Gas turbine	¾	¾	30°	1.2 to 9.2	0.1	0.54 to 9.2	0.5	
SYS/FTBG-108/FLSC-C3	Gas turbine	¾	¾	15°	2.6 to 20	0.02	1.2 to 20	0.1	
SYS/FTBG-109/FLSC-C3	Gas turbine	1	1	30°	1.6 to 20	0.2	0.72 to 20	1	3850 psi
SYS/FTBG-110/FLSC-C3	Gas turbine	1	1	15°	3.5 to 43	0.04	1.6 to 43	0.2	
SYS/FTBG-111/FLSC-C3	Gas turbine	1½	1½	30°	3.5 to 55.5	0.15	1.6 to 55.6	0.75	3500 psi
SYS/FTBG-112/FLSC-C3	Gas turbine	1½	1½	15°	7.6 to 120	0.035	3.5 to 120	0.175	
SYS/FTBG-113/FLSC-C3	Gas turbine	2	2	30°	7 to 93	0.3	3.1 to 93	1.5	3000 psi
SYS/FTBG-114/FLSC-C3	Gas turbine	2	2	15°	15 to 200	0.0625	7 to 200	0.3125	
SYS/FTBG-115/FLSC-C3	Gas turbine	3	3	30°	15 to 363	0.4	6.7 to 363	2	1500 psi
SYS/FTBG-116/FLSC-C3	Gas turbine	3	3	15°	35 to 600	0.1	15 to 600	0.5	

Systems come complete with turbine, signal conditioner and operator's manual.
*For units with 100 to 240 Vac power add **"-VAC"** to model number, for additional cost, not available with alarm option.*
*For units with optional high/low alarm relay add **"-AL"** to the model number, for additional cost.*

Signal Conditioners/Accessories

Model Number	Range	Description
FLSC-C3	4 to 20 mA CE	Replacement signal conditioner† only for gas turbine system
FLSC-C3-AL	4 to 20 mA and alarm CE	Replacement signal conditioner† with alarm only for gas turbine system
OM-CONV-USB	—	USB to RS232 converter
FLSC-C-CABLE	—	9-pin D connector to transmitter Molex

*† Replacement signal conditioners require the purchase of FLSC-C-CABLE to enable them to be programmed in the field. Required software available free at **omega.com/ftp.***
***Ordering Example: SYS/FTBG-107/FLSC-C3,** ¾" gas turbine with 4 to 20 mA signal conditioner.*