GREYSTONE ENERGY SYSTEMS INC

TECHNICAL DATA SHEET **Q7 Series**

CO/NO_2 SMART DUAL GAS TRANSMITTERS

The Q7 Series Dual Gas Transmitters are advanced monitoring devices designed to detect carbon monoxide (CO) and nitrogen dioxide (NO_2) using high-precision electrochemical sensors. Built for rugged environments, they feature a durable IP66 (NEMA 4X) rated enclosure and an integrated buzzer for immediate local alerts. Each unit includes a clear LCD display showing real-time gas concentrations and LED indicators for relay status.

These transmitters support RS-485 communication with Modbus or BACnet protocols, allowing seamless integration with building automation systems. Sensor modules are pre-calibrated and user-replaceable, minimizing maintenance and downtime. The intuitive interface provides access to multiple display screens showing relay status, time, Time-Weighted Average (TWA), Short-Term Exposure Limit (STEL), peak daily readings, and individual gas concentrations.

Programming and calibration are straightforward, non-proprietary, and protected by a user-defined password. The units can operate independently or integrate with third-party controllers. Standard features include user-programmable relays and an audible buzzer, which can be triggered instantly or with a time delay. The compact design combines all functionality into a single enclosure with an integrated display, offering a complete and efficient gas monitoring solution.

- **Monitors CO and NO_2** with electrochemical sensors
- **Durable NEMA 4X enclosure** with built-in buzzer
- **LCD display** shows gas levels; LEDs indicate relay status
- **RS-485 Optomux /BACnet** for system integration
- **Replaceable sensor modules** for easy maintenance
- **Interface displays TWA, STEL, peak, time, relay status**
- **Simple programming/calibration**, password protected
- **Works stand-alone** or with **3rd party controllers**
- **User-set relays and buzzer**, instant or delayed
- **Compact all-in-one unit** with integrated display

SPECIFICATIONS

POWER SUPPLY	24Vac (15-24Vac); 24Vdc (18-30Vdc) *Note 1
FUSE	0.750A Polyswitch
SUPPLY CURRENT | POWER CONSUMPTION	Max 300mA | 7.2W
SENSING ELEMENT TECHNOLOGY	Electrochemical
SENSOR LIFE	**CO:** 5 years typical **NO2:** 2-3 years Typical
ACCURACY /REPEATABILITY	±2.5% / ±1.0% of reading
SHELF LIFE	6 months from the date of purchase
RESPONSE TIME	<30 seconds for 90% step change
COVERAGE AREA	700m^2 (7500ft^2) or 15m (50ft) radius
MOUNTING HEIGHT	1.2 to 1.83m (4.0 to 6.0') above the floor
FACTORY CALIBRATION RANGE	CO: 0-250ppm NO_2: 0-10ppm
DISPLAY	LCD graphic display c/w backlight
PANEL CONTROL	**Keypad:** 3 Capacitive touch sensing keys: F1, F2, F3
PANEL INDICATOR	5 Status LED's RS-485 TX & RS-485 RX (Green) Relay 1, Relay 2, Relay 3 (Red)
WARM UP	1 hour

RoHS COMPLIANT

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SPECIFICATIONS

RELAYS OUTPUTS	3 relays SPDT (Form C) Dry Contact 1.0A Maximum at 30 VDC (resistive load) 0.3A maximum at 125 VAC (resistive load)
TIME DELAYS	Actuation (Make) or De-Actuation (Break) @ 0-999 seconds
RELAYS LIFE EXPECTANCY	Mechanical @ 50 million & Electrical @ 200,000 operations
DIGITAL OUTPUT	RS-485 with OptoMux protocol Connects to Q4C-II Controller, M-Controller2 and Q-Controller BACnet, Modbus to other controllers
BAUD RATE	**Modbus :**1200 to 76800 Bits/Second (Default: 4800 BPS) **BACnet:** 9600 to 76800 Bits/Second (default:38400)
BUZZER	80db at 10cm, 2700Hz buzzer with 3 programmable tones
LOCATION	Indoor use only
OPERATING TEMPERATURE	-40° to 70°C (-40° to 158°F), depends on sensor specification
STORAGE TEMPERATURE	0° to 40°C (32° to 104°F)
AMBIENT HUMIDITY	5% to 95% RH (non-condensing)
OPERATING PRESSURE	Atmospheric ±10%
ENCLOSURE	Polycarbonate Lexan, Fire retardant UL94V-0 IP66 Nema 4, 4X,12,13
WIRING	12AWG - 24AWG for screw terminals Blocks (De-Pluggable)
CABLE SPECIFICATION	BELDEN 9841 or equivalent,120 ohms Input
DIMENSIONS	200 x 90 x 65mm (7.87 x 3.54 x 2.56”)
WEIGHT	Less than 0.45kg (1.0lbs)

Note 1: *Q7 Series has a full-wave and half-wave rectifier circuit on board, and either can be used for power as a stand-alone unit. However, if the Q7 is sharing power with 3rd party controllers then all must be the same. You will damage devices if you mix half wave and full wave rectifiers on the same AC source. Use extreme caution when sharing a common AC source. Sharing a common DC source is less problematic..*

ACCESSORIES

Q-CONTROLLER	Communication central unit, RS-485 port, Modbus protocol, BACnet/IP, 4Relay, 128 Analog outputs
M-CONTROLLER2	Communication central unit, RS-485 port, Modbus protocol, 3 Relay, 8 Analog outputs
Q4C- CONTROLLER	Communication central unit, RS-485 port, Modbus Protocol, BACnet /IP, 4 Relays
85930-007-000	Unit cover for wet application
85930-006-000	Pump-thru & Cal Cap Kit
85930-040-000	Duct Mount Adapter Kit

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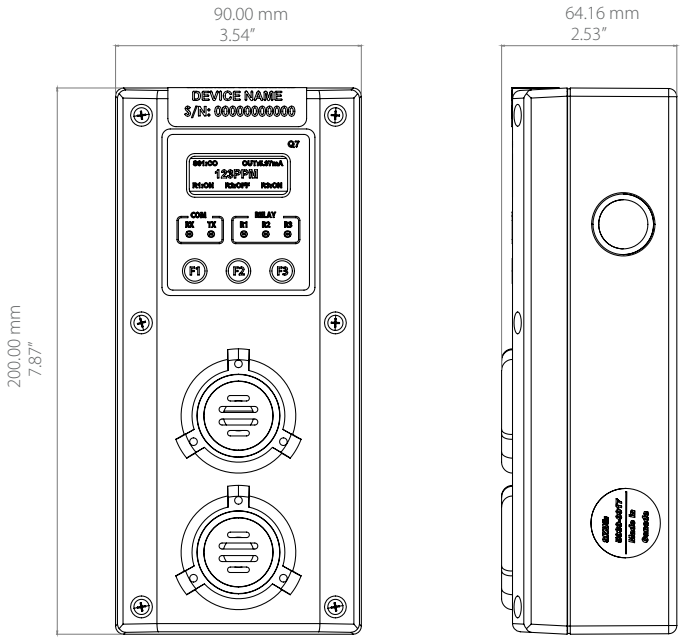
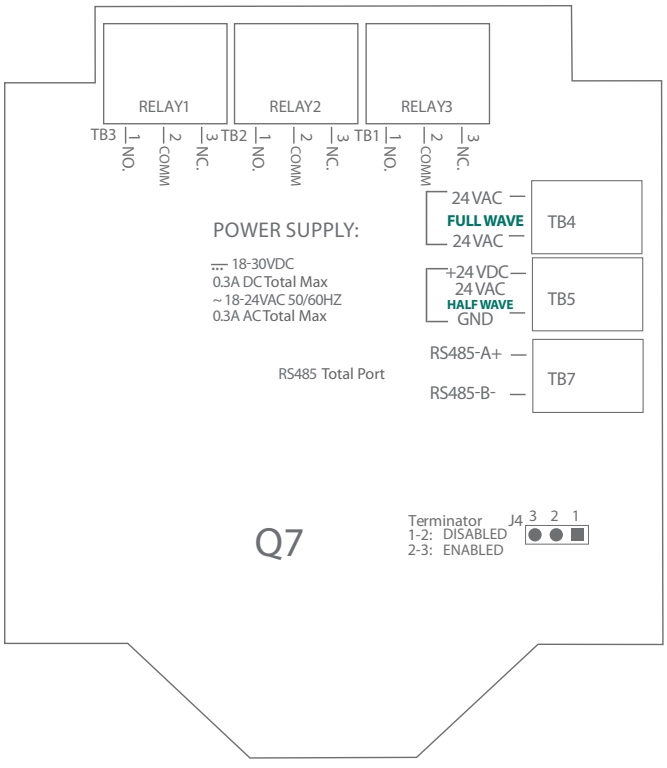
DIMENSIONS



WIRING INFORMATION



Q7

TERMINAL		FUNCTION
TB1 TB2 TB3	**NC:** Normally Close **COM:** Common **NO:** Normally Open	3 x Relays Outputs
TB4	24VAC 24VDC	Power IN Full Wave
TB5	24VAC 24VDC	Power IN Half wave
TB7	A+ B-	RS-485 For Controller

ORDERING CODE

GAS TYPE & SPAN RANGE	PRODUCT
CO: 0-250ppm **NO_2:** 0-10ppm	Q7-CO-NO2-G

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