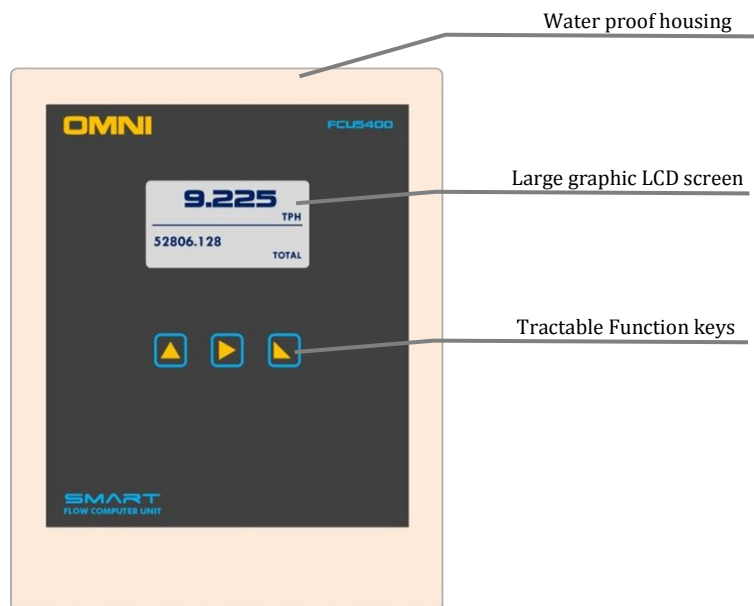


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SMART Process Indicator & Controller FCU5400

- Flow rate indicator & totalizer
- Batch controller
- Flow rate controller
- Multiple inputs
- Computer unit for multi variable

Applications

- For application in the process engineering
- Suit for liquids, vapor, or gases
- Preferred areas of use are:
 - Process engineering
 - Chemical industry
 - Textiles
 - Power plants
 - Compressor stations
 - Pharmaceuticals
 - Food & beverage
 - Sugar

Characteristics

- 0-20 mA, 4-20 mA, 0-5 V, 1-5 V inputs
- Water proof housing
- Universal 90-260 V AC or 12/24 V DC input power
- Large graphic LCD screen
- Menu driven parameter display and setup
- Math function for flow
- Square root, linearization and K-factor function
- Programmable 2 analog out and 2 digital out
- Two digital resettable counters
- RS232/RS485 serial communication option
- -10 to 65 °C operating temperature range
- Customization by Boot-rom up-loader
- Remote firmware upgradeable
- Remote telemetry option

Feature Rich and Flexible

The SMART FCU5400 process indicator and controller boasts specifications and functionality that clearly makes it one of the most advanced process meters available. Its graphic LCD screen, advanced math functions, function keys, and optional modules are only a few of the features you will find on the SMART FCU5400.

Precise, Accurate, and more informative

SMART FCU5400 large LCD display will provide you with a highly accurate and precise view of all parameters. Its 10-bit A/D is accurate to 0.05% FS ± 1 count.

Configurable

The main display can be programmed to indicate m³/h, TPH, Kg/h, and auto decimal converter. Configuration and setup is by menu driven parameter.

Environmentally tough

Extra bright graphic LCD, readable in sunlight also. Water proof IP65 housing.

Easy to use

The user friendly display makes the SMART FCU5400 easy to setup & program. No jumpers to set, or potentiometer to adjust. All setup and programming is done via the front panel. A unique password protection is help to maintain the reliability of the programming.

Customized options

Due to boot-rom firmware up gradation, the SMART FCU5400 can be programed as:

- Flow rate indicator & totalizer
- Batch controller
- Flow rate controller
- Multiple inputs
- Computer unit for multi variable

Options

Add functionality to the SMART FCU5400 in the field with easy to update modules. Add RS232/RS485, I/O or relay modules up gradation. The menu items for these updates are re-configurable via menu driven parameters.

I/O expansions

4 analog inputs, 2 analog outputs, 2 high speed counter/digital inputs, 2 relay outputs are available on the basic board. The I/O can be configured as multi flow meters inputs, batch controllers, flow rate controllers, multi variable controller.

Math Functions

Non-linear input signals can be linearized with built-in math functions, such as square root multi point curve and K-factor.

Analog output

The analog signal can be configured to represent process variable. Output is nominally 4-20 mA.

Auto/Manual control

Take control of any output with this feature. All relays can be forced ON or OFF, and the 4-20 mA output signal can be set to any value within its range.

Isolated power supply

A 12/24 V DC @ 300 mA power supply is a standard feature on the SMART FCU540.



Connections

90-260 V AC, 12/24 V DC auxiliary supply, 4 analog inputs, 2 analog outputs, 2 high speed counter/digital inputs, 2 relay outputs are available on the basic board.

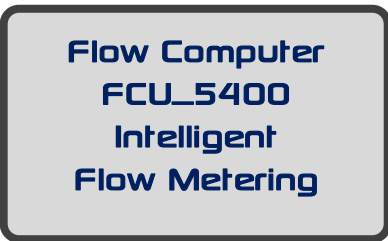
POWER SUPPLY		AUX. POWER		ANALOG INPUTS 4-20 mA, 2-10 V DC								ANALOG OUT 2~10 V DC			DIGITAL OUTPUTS		
110~ 240 V AC		12~ 24 V DC		AI	A2	A3	A4	DIGITAL INPUTS				A01	A02	C2	Y1	Y2	C3
L	N	+	-	+	-	+	-	+	-	+	-	X1	X2	C1	+	+	-

Configuration

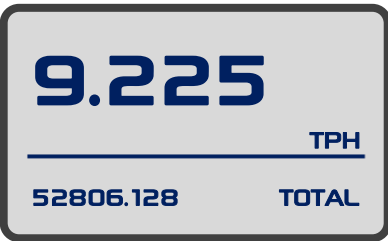
Steam flow meter setup for explanation.



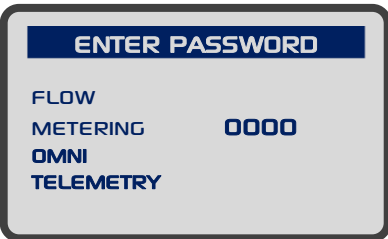
Startup Screen



Startup Screen

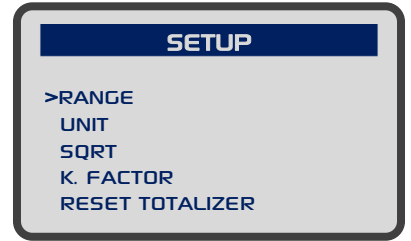


Main Screen

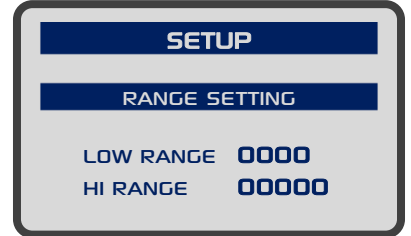


Enter Password
Press **▲** and **▶** for 5 seconds
Default password 7478

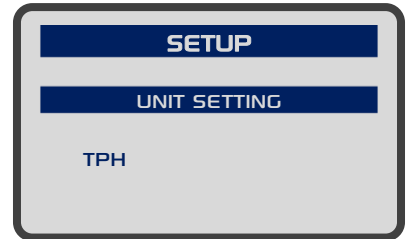
Setup Screen
Press **▲** for scrolling and press **▶** for setup parameter



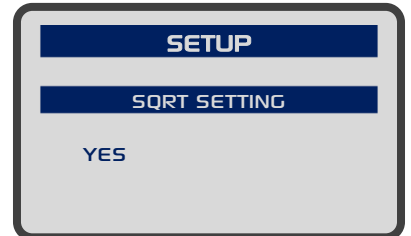
Range Settings
Set range as per flow capacity



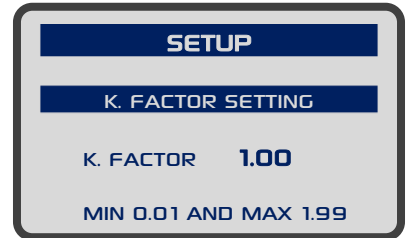
Unit Settings
TPH
M3/h
Kg/h



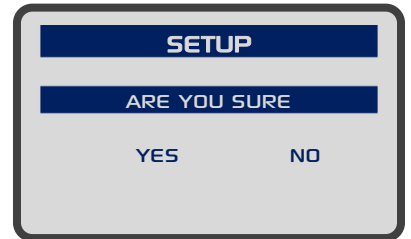
SQRT Settings
For DP type flow transmitters
Yes/NO



K. Factor Settings
For adjustment of offset range to minimize the flow error



Totalizing Reset Confirmation
Yes/NO



Specifications

Except where noted all specifications apply to operation at +25 °C.

General

Display: High contrast graphic LCD.

Flow rate: 10 digits, Totalizing: 10 digits

Display update rate: 100 ms

Panel: IP65 water proof

Password: Password restrict modification of programmed settings

EEPROM: Data retention up to 40 years

Power options: 90-260 V AC 50/60 HZ, 12 watts or 12/24 V DC

Normal mode rejection: Greater than 60 dB at 50/60 HZ

Isolation: 4 kV input/output to power line

Environmental: Operating temperature range: -10 to 65 °C. Storage temperature range: -40 to 85 °C. Relative humidity: 0 to 90% non-condensing

Connections: Removable screw terminal blocks accept 12 to 22 AWG wire

Mounting: Four panel mounting bracket assemblies for wall mounting

Overall dimensions: H x W x D
285mm x 190mm x 140mm

Warranty: 1 year parts & labor

Process input

Input: 0-20 mA, 4-20mA, 0-10 V DC, 2-10 V DC

Accuracy: $\pm 0.05\%$ FS ± 1 count, square root & programmable exponent accuracy range: 10-100% FS

Temperature drift: From 0 to 65 °C ambient
50 PPM/°C

Math function: Linear, square root, or programmable exponent, multipoint linearization for gas flow

Programmable exponent: 0.01 to 1.99

Low range cutoff: Programmable low range
Decimal point: Auto decimal up to 3 digits

Calibration range: Minimum span: 0.15 mA or 0.10 V

Input Impedance: Voltage: 1 M Ω ,
Current: 5 Ω

Relays

Rating: 2 SPST rated 5A@ 125/250 V AC

Noise suppression: Noise suppression is recommended for each relay contact switching inductive loads

Time delay: 1 to 999 seconds, ON and OFF time delay, programmable and independent for each relay

Analog output

Output source: Process variable

Scaling range: 4.0 to 20.0 mA for any display range

Calibration: Factory calibrated

Accuracy: $\pm 0.1\%$ FS ± 0.004 mA

Serial Communication

Address: 1-32

Baud rate: 9600

Data: 8 bit (1 start bit, 1 stop bit), parity none

Normal mode rejection: Greater than 60 dB

Ordering information

SMART FCU5400

SMART FCU5400-M0: Basic with single input

SMART FCU5400-M4: For 4 inputs

SMART FCU5400-M12: Batch controller

SMART FCU5400-M42: Flow controller

SMART FCU5400-M41: Multi variable

Accessories

Serial adapter: RS232/RS485 serial adapter

Remote telemetry: GSM/GPRS DTU

Data Acquisition: Software package max 32 units

Disclaimer

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