

The Kotron series 805 is a budget minded but “full function” 24 V DC, 2-wire loop powered smart RF transmitter. The microprocessor based electronics allow the user to calibrate the 805 with only one small level change. The electronics are housed in an ergonomical dual compartment housing which is directly mounted on top of the probe.

The Kotron 805 comes in 2 versions:

- blind transmitter
- transmitter with local Magnecal™ system (LCD and keypad).

## FEATURES

### Blind Transmitter

- Password protected Calibration using HART<sup>®</sup> communication.
- One small level change needed for initial calibration.
- Full diagnostics using HART<sup>®</sup> communication.
- Analog output: 3.8mA to 20.5 per Namur NE 43.

### Transmitter with local keypad/LCD

- Calibration using HART<sup>®</sup>, or locally via a 2-line x 8 character LCD display and 3 pushbuttons.
- Continuous local display of Level, % and loop signal.
- Fault identification via FAULT message on LCD.

### Other Features

- Ergonomical - 45° angle, dual compartment housing isolates terminal board from electronics.
- Transmitter head can be removed from probe without depressurizing the vessel.
- Compatible with over 50 application oriented KOTRON<sup>®</sup> probes (see bulletin BE 50-125).

## APPLICATIONS

- Hydrocarbons & Solvents.
- Corrosives, Acids and Caustics.
- Powders & Granulars.
- High Temperature/Pressure Liquids.

## Smart and budget minded Level solution



Transmitter with  
LCD / keypad

## AGENCY APPROVALS

<b>ATEX</b>	II 1G EEx ia IIC T4 (ambient -40 °C to +80 °C) II 1G EEx ia IIC T6 (ambient -40 °C to +40 °C)
<b>FM/CSA</b>	Intrinsically safe Non Incendive (Consult factory for proper partnumber)

# SELECTION DATA

A complete measuring system consists of a:

1. Smart R.F. KOTRON® 805 amplifier.
2. KOTRON® Probe; a full range of rigid and flexible probes for conductive and non-conductive media is available (see bulletin BE 50-125).  
Rigid probes: from 150 mm (6") to 6000 mm (20') insertion length  
Flexible probes: from 1 m (3,28') to 45 m (150') insertion length
3. OPTION: HART communicator  
Magnetrol P/N : **089 - 5213 - 012** (Euro Plug) **089 - 5213 - 013** (UK Plug)

## 1. Order code for SMART R.F. KOTRON® 805 amplifier

BASIC MODEL NUMBER

8	0	5	Smart R.F. KOTRON® 805 amplifier
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### SIGNAL OUTPUT

0	4 - 20 mA analog output
1	4 - 20 mA analog output with HART® communication

### MENU LANGUAGE

0	None, for use with blind transmitter (requires HART® communication)
1	English for use with transmitter with LCD display and keypad
2	Spanish for use with transmitter with LCD display and keypad
3	French for use with transmitter with LCD display and keypad
4	German for use with transmitter with LCD display and keypad

### TRANSMITTER TYPE

0	Blind transmitter (requires HART® communication)
A	Transmitter with 2 line x 8 character LCD display and keypad

### APPROVALS

1	General Purpose (FM/CSA intrinsically safe)
A	Intrinsically safe, ATEX II 1G EEx ia II C T6

### HOUSING

1	Cast aluminium, dual compartment housing – IP 65
2	Stainless steel, dual compartment housing – IP 65

### CABLE ENTRY

0	3/4" NPT (2 entries - one plugged)
1	M20 x 1.5 (2 entries - one plugged)
2	PG 13.5 (2 entries - one plugged)

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**complete order code for SMART R.F. KOTRON® 805 amplifier**

## 2. Order code for KOTRON® Probe (see bulletin BE 50-125)

A complete line of rigid and flexible probes are available for the Kotron 805 Transmitter.

Types of probes to choose from include:

- Rigid insulated rod probes in Teflon® (TFE), Halar® (ECTFE), and Kynar® (PVDF)
- Rigid bare probes in 316 SS (1.4401) and Hastelloy C (2.4816)
- Rigid all plastic probes in Halar® (ECTFE), and Kynar® (PVDF)
- Bent, ground wire, and inactive sheath probes in many of the above materials
- Stilling well probes
- Sanitary probes
- Reference rod probes
- Flexible probes

## FUNCTIONAL/PHYSICAL

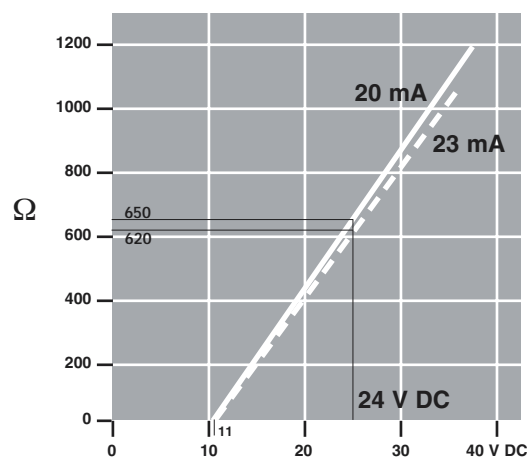
<b>Description</b>	<b>Specification</b>
Power (at terminals)	General Purpose: 11 to 36 V DC ATEX Intrinsically Safe: 11 to 28.6 V DC
Signal Output	4-20 mA or 4-20 mA with HART® 3.8 to 20.5 mA useable (meets NAMUR NE 43)
Span	minimum 5 pF - maximum 10.000 pF
Zero and Range	0 mm to 45 m (0' to 150')
Resolution	Analog: 0.01 mA Digital display: 0,1 cm (0.1")
Loop Resistance	ATEX Intrinsically Safe/General Purpose: 650 Ω @ 24 V DC
Damping	Adjustable 1-45 s
Diagnostic Alarm	Adjustable 3.6 mA, 22 mA, HOLD (3.6 mA is not valid if unit includes HART®)
Digital Communication (HART®)	compatible with software version 5.x
User Interface	3-button keypad and/or HART communicator
Display	2-line x 8-character LCD
Approvals	ATEX II 1 G EEx ia IIC T4/T6 or FM/CSA intrinsically safe / non incendive
Electrical Data	U <sub>i</sub> = 28,6 V, I <sub>i</sub> = 140 mA, P <sub>i</sub> = 1 W
Equivalent Data	C <sub>i</sub> = 2,2 nF; L <sub>i</sub> = 0,037 mH
Menu Language	English/Spanish/French or German
Housing Material	Aluminium A356T6 (< 0.25% copper) or 316 SST (1.4401)/IP 65
Net and Gross Weight	2.70 kg net; 3.20 kg gross
Overall Dimensions	H 214 mm (8.43") x W 111 mm (4.38") x D 188 mm (7.40")

## PROCESS CONDITIONS

<b>Description</b>	<b>Specification</b>
Maximum Process Temperature	540 °C @ 35 bar (1000 °F @ 500 PSIG) - depending probe selection
Maximum Process Pressure	345 bar @ 40 °C (5000 PSIG @ 100 °F) - depending probe selection
Ambient temperature electronics	-40 °C to +80 °C (-40 °F to +175 °F) – blind transmitter -20 °C to +70 °C (-5 °F to +160 °F) – with LCD display and keypad
Storage temperature	-40 °C to +80 °C (-40 °F to +175 °F)
Humidity	0-99 %, non-condensing
Electromagnetic Compatibility	Meets CE requirements (EN-50081-2, EN 50082-2) / NAMUR NE 21 (EMV)

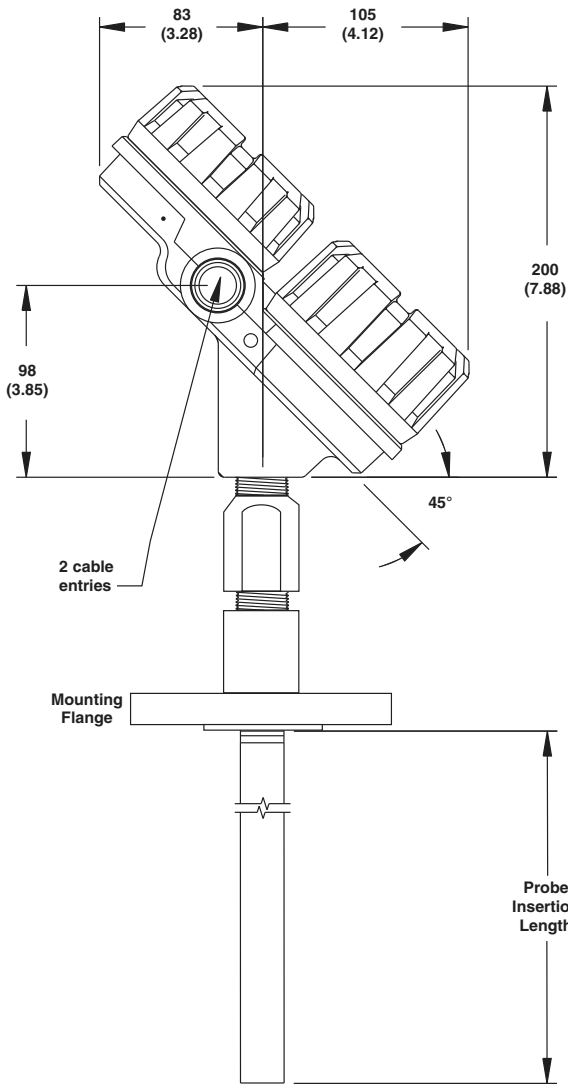
## PERFORMANCE

<b>Description</b>	<b>Specification</b>
Reference conditions	20 °C (70 °F)
Accuracy	+/- 0.5% of span or 2.5 mm whichever is greater
Resolution	0.1 pF
Repeatability	+/- 0.1% of span
Linearity	+/- 0.25% of span
Response time	less than 1 s (adjustable via damping)
Ambient temperature effect	approximately +0.03% per °C
Warm up time	less than 5 s

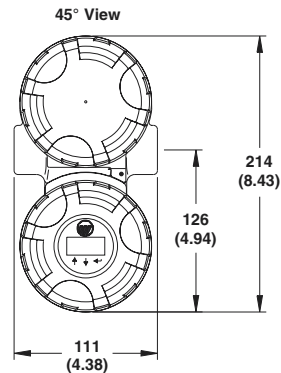


OUTPUT TABLE

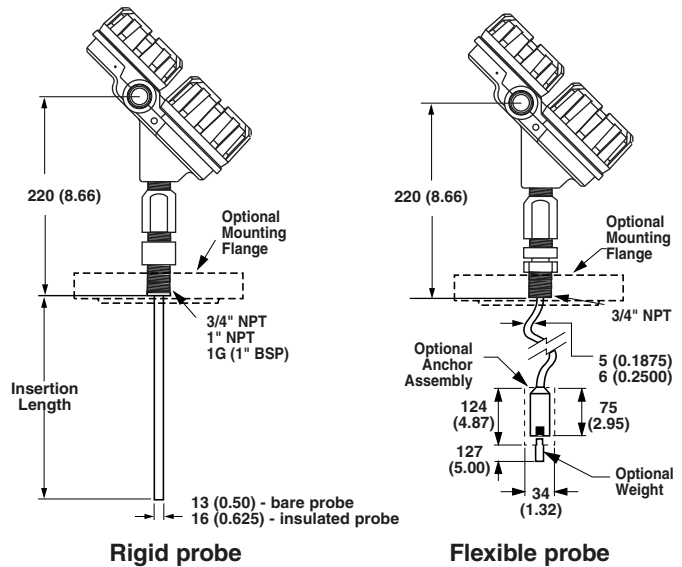
# DIMENSIONS in mm (Inches)



**Kotron 805 Housing side view**



**Kotron 805 Housing front View**



**Rigid probe**

**Flexible probe**



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UNDER RESERVE OF MODIFICATIONS

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