New Information

Metering Devices
IQ 300

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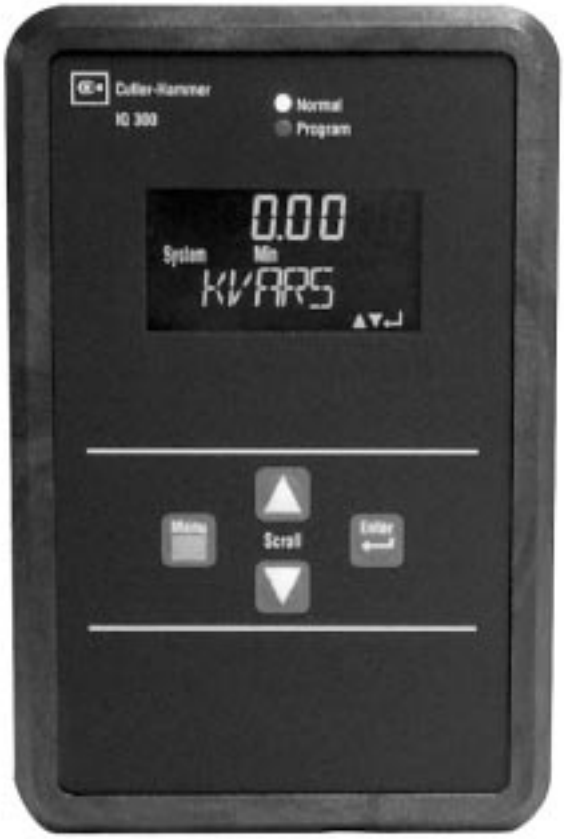

IQ 300

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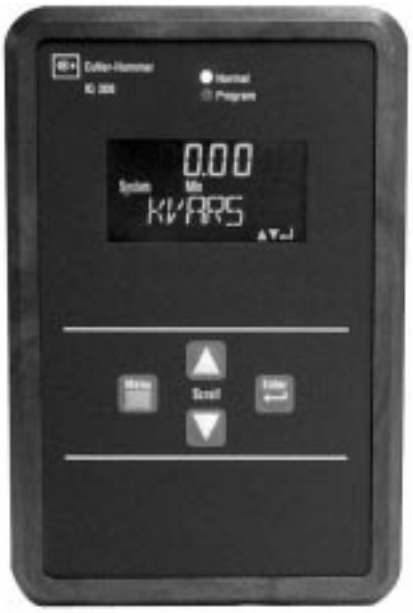

IQ 300

Applications

- Monitoring of electrical parameters.
- Can be used on both low voltage and medium voltage assemblies.

Metered/Monitored Parameters

- Phase currents.
- Voltage, L-L, L-N.
- Power: real, reactive, apparent.
- Energy: watt hours, VAR hours, and VA hours.
- Frequency.
- Power factor.
- Minimum / maximum values.
- System demand.
- KYZ energy pulse output ①.
- ANSI C12.16 Revenue metering accuracy (1%).

Communications

Some models have interface capability to computer network for data collection, storage and/or printout via the Eaton Cutler-Hammer PowerNet system ①.

① Model IQ 320 only.

Physical Characteristics

- Two-line reverse mode LED back-lit LCD display with helpful icons.
- Standard IQ meter cutout.
- Display height: 10.25 inches (260.3 mm).
- Display width: 6.72 inches (170.7 mm).
- Display depth (behind panel): 0.75 inches (19.1 mm).
- Membrane faceplate designed and tested to meet NEMA 12, 3R and IP 52.
- Base unit can be mounted on the rear of the display.
- Three separate base mounting options.

Listing/Certification

- UL and CUL listed under UL 3111 and CSA C22.2 # 1010.1.
- Meets IEC 1010-1.
- CE mark for applications where European compliance is required.

General Description

The IQ 300's thin display and flexible mounting capabilities make it perfectly suited for any application where an accurate, multi-function meter is desired, such as panelboard and switchboard mains and feeders, motor control centers, and both low voltage and high voltage metal-enclosed switchgear. The base module can be display mounted, panel mounted, DIN-rail mounted or side mounted. The display only requires 1.5 inches (38.1 mm) behind the panel it is mounted in, including display to base cable.

One IQ 300 provides an alternative to an assortment of individually wired and mounted ammeters, voltmeters, ammeter and voltmeter switches, watt-meters, var-meters, power factor meters, frequency meters, watt hour and demand meters. ANSI C12 Class 10 revenue metering accuracy makes the IQ 300 an ideal choice for circuits where precise energy measurements are required.

The IQ 300 can be easily programmed from the faceplate with display and keypad, which features a two-line reverse mode LCD display with LED backlight. Auto scrolling function allows hand-free viewing of all voltages and currents. All measurements can be viewed from the local display.

The IQ 300 can also be configured and monitored using PowerPort, free software available on the Cutler-Hammer web site, or can be used with PowerNet, the full featured power management system software.

Switchgear Mounting

- Bright display with eight large numeric digits along with a 10-character description of the measured value makes the IQ 300 ideal for switchgear mounting.
- Base unit can be display mounted for simple, one hole, installation.
- Base unit can be mounted up to 10 feet (3m) away from display and has three mounting options.

Ratings

- Application to 200 kV, no PTs to 600V.
- CT ratios selectable from 5 to 8,000A.
- Three-phase, 3- or 4-wire.

Control Power Input

- All +/- 10%.
- Model IQ 310:
  - ❑ 110 to 240V AC 50/60 Hz
  - ❑ 125 to 250V DC
- Model IQ 320 (+/- 10%):
  - ❑ 90 to 600V AC 50/60 Hz
  - ❑ 48 to 250V DC

Display Settings

Display automatically switches to power saving dim mode after 5 minutes. User-selectable settings for:

- Auto scroll timeout.
- Contrast.

Specifications

Compatible with the following systems:

- Three-phase, 3-wire.
- Three-phase, 4-wire.

Current Input (Each Channel)

- Nominal full scale current: 5 amperes AC.
- Current range: two times nominal.
- Overload withstand:
  - 10 amperes AC continuous.
  - 50 amperes AC 1 second.
- Input impedance: 0.01 ohms.
- Burden: 0.025 VA.

Voltage Input (Each Channel)

- Voltage range (nominal): 90 – 600V AC.
- Overload withstand:
  - 660V AC continuous
  - 800V AC 1 second
- Input impedance: two megaohms.

CT (Primary) Settings

- Select from 256 ratios ranging from 5:5 to 5:8,000.

PT (Primary) Settings

- Select from 256 ratios ranging from 1.0:1 to 1690:1.

Table 1. Environmental Conditions

Base	Display
Operating Temperature	
-20 – 50°C	0 – 50°C
Storage Temperature	
-30 – 85°C	-20 – 70°C
Maximum Relative Humidity	
80% up to 31°C decreasing linearly 50% at 50°C.	

Frequency Range

- 50/60 Hz.

Electrical Standards

- UL, CUL and CSA listed.
- UL File Number E185559.
- CE mark for applications where European compliance is required.

Safety

- IEC 1010-1 Incl. Amend. 1 and 2.
- EN61010-1.
- CSA C22.2 Number 1010.0.
- UL 3111.

EMC

Emissions

- FCC Part 15 Class A.
- CISPR 11 /EN55011.
- Group 1 Class A.
- Immunity.
- Electrostatic Discharge.
- EN61000-4-2 / EN50082-2.
- 4 kV Contact Discharge.
- 8 kV Air Discharge.

Electrical Fast Transient

- EN61000-4-4 /EN50082-2.
- 2 kV power lines.
- 2 kV signal lines.

Radiated Immunity

- EN61000-4-3 / EN50082-2.
- 10 V/m.

Conducted Immunity

- EN61000-4-6 / EN50082-2.
- 10 V/m.

Power Frequency Magnetic Field

- EN61000-4-8.
- 30 A/m.

Table 2. Metered Values (Based on Full Scale up to 5A, Reading >5A)

Metered Parameter	Accuracy
AC Ampere Phase Voltage	+/- 0.5% +/- 0.5%
Watts Vars VA	+/- 1.0% +/- 1.0% +/- 1.0%
kW Hours kVar Hours kVA Hours	+/- 1.0% +/- 1.0% +/- 1.0%
Power Factor Frequency Demand	+/- 2.0% +/- 0.1% +/- 1.0%

Table 3. Control Power Input

	VAC	VDC
IQ 310	110 – 240 +/- 10%	125 – 250 +/- 10%
IQ 320	90 – 600 +/- 10%	48 – 250 +/- 10%
Frequency Range	50/60 Hz +/- 10%	—
Burden	180 mA	7W

Field Wiring Connections

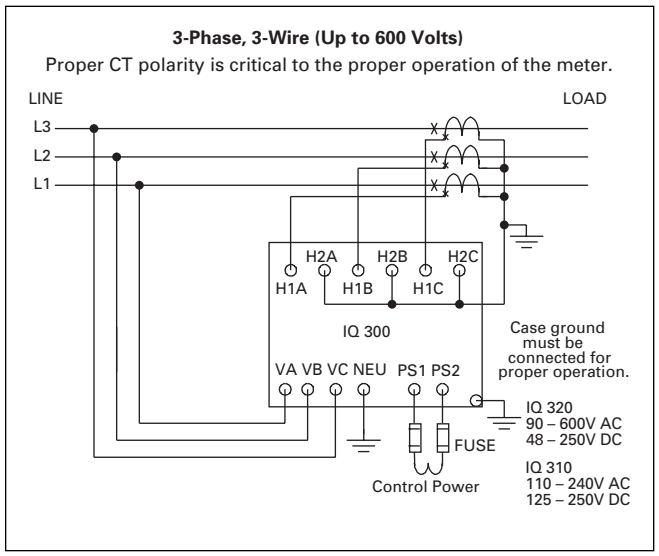

Figure 1. 3-Phase, 3-Wire (Up to 600 Volts)

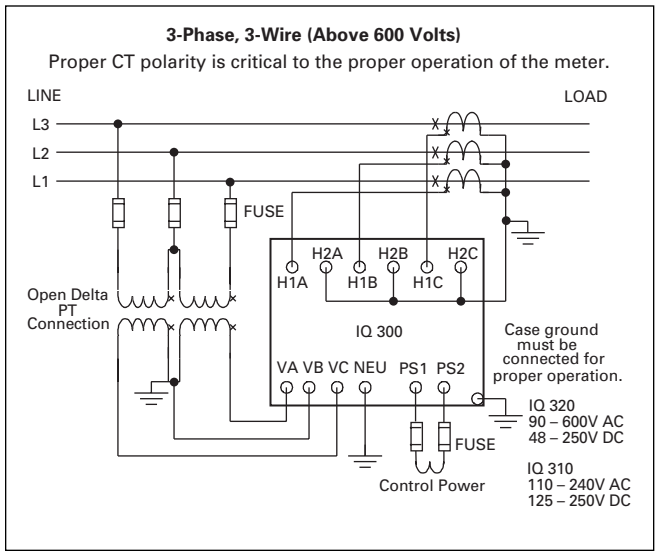

Figure 2. 3-Phase, 3-Wire (Above 600 Volts)

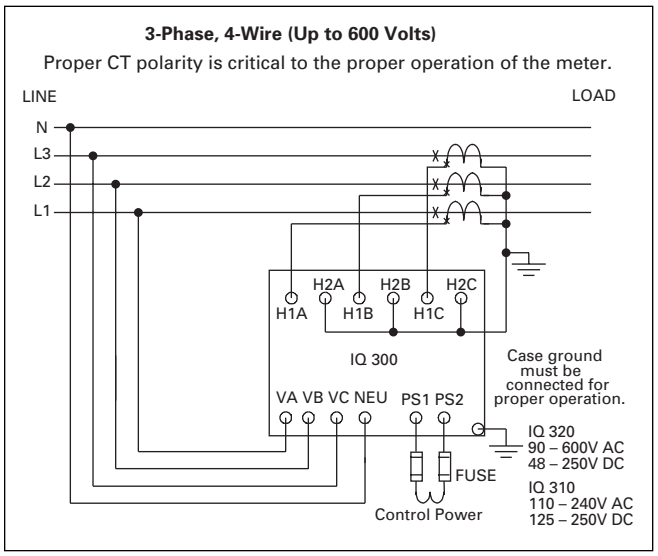

Figure 3. 3-Phase, 4-Wire (Up to 600 Volts)

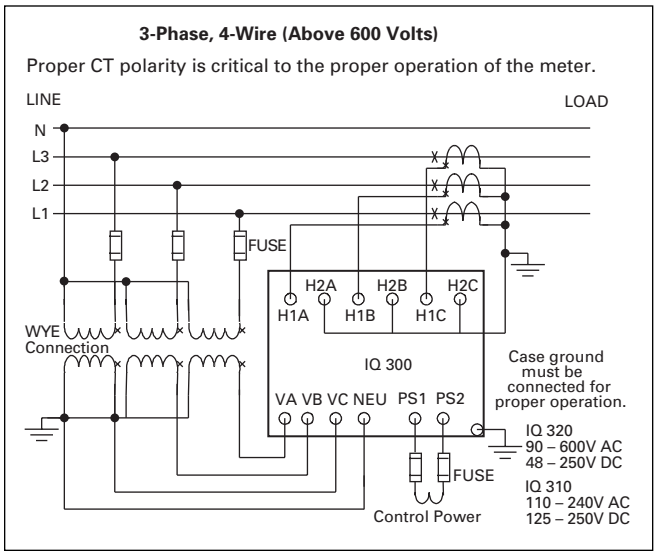

Figure 4. 3-Phase, 4-Wire (Above 600 Volts)

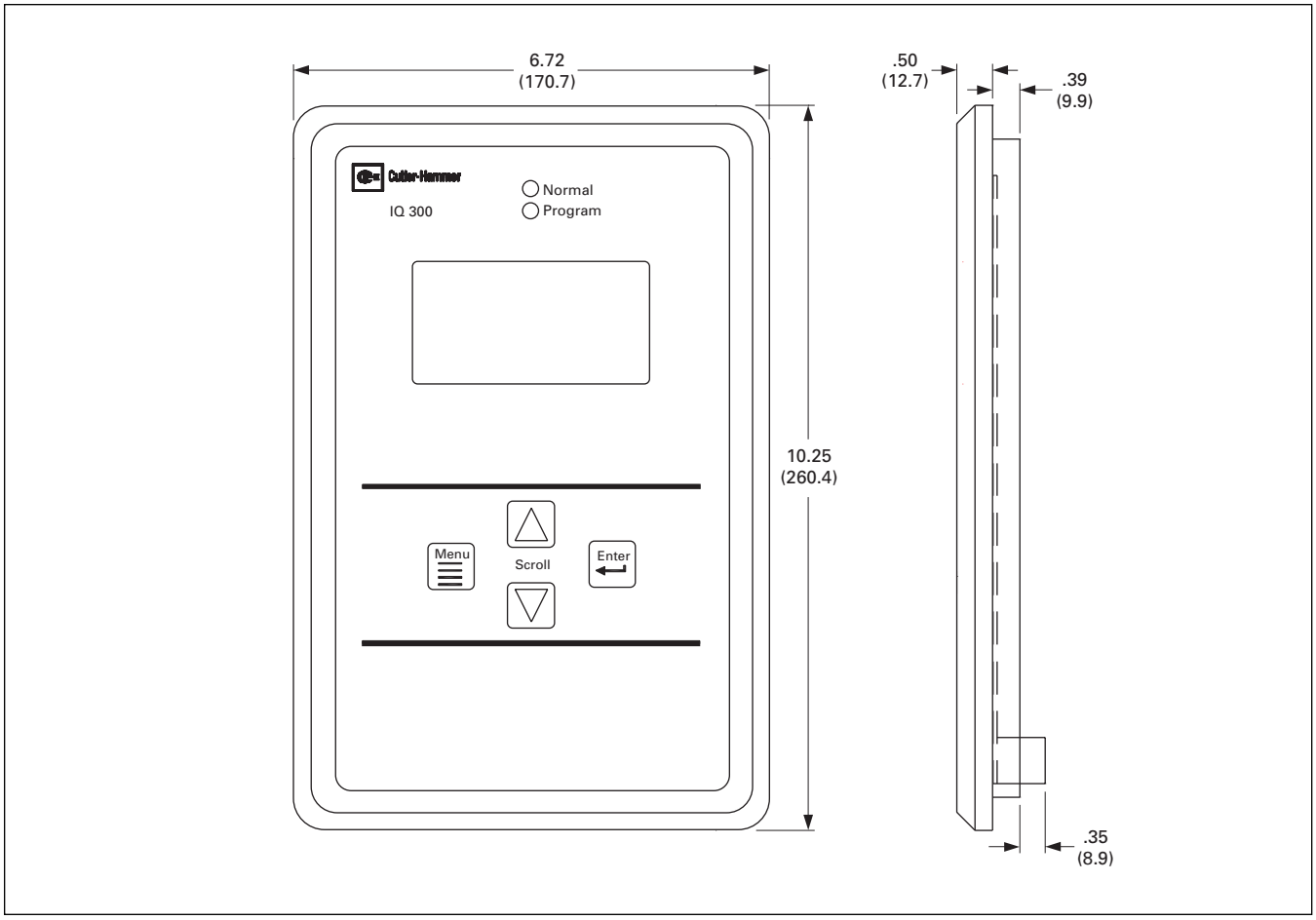

Figure 5. Dimensions for the IQ 300 Display Module (Only).

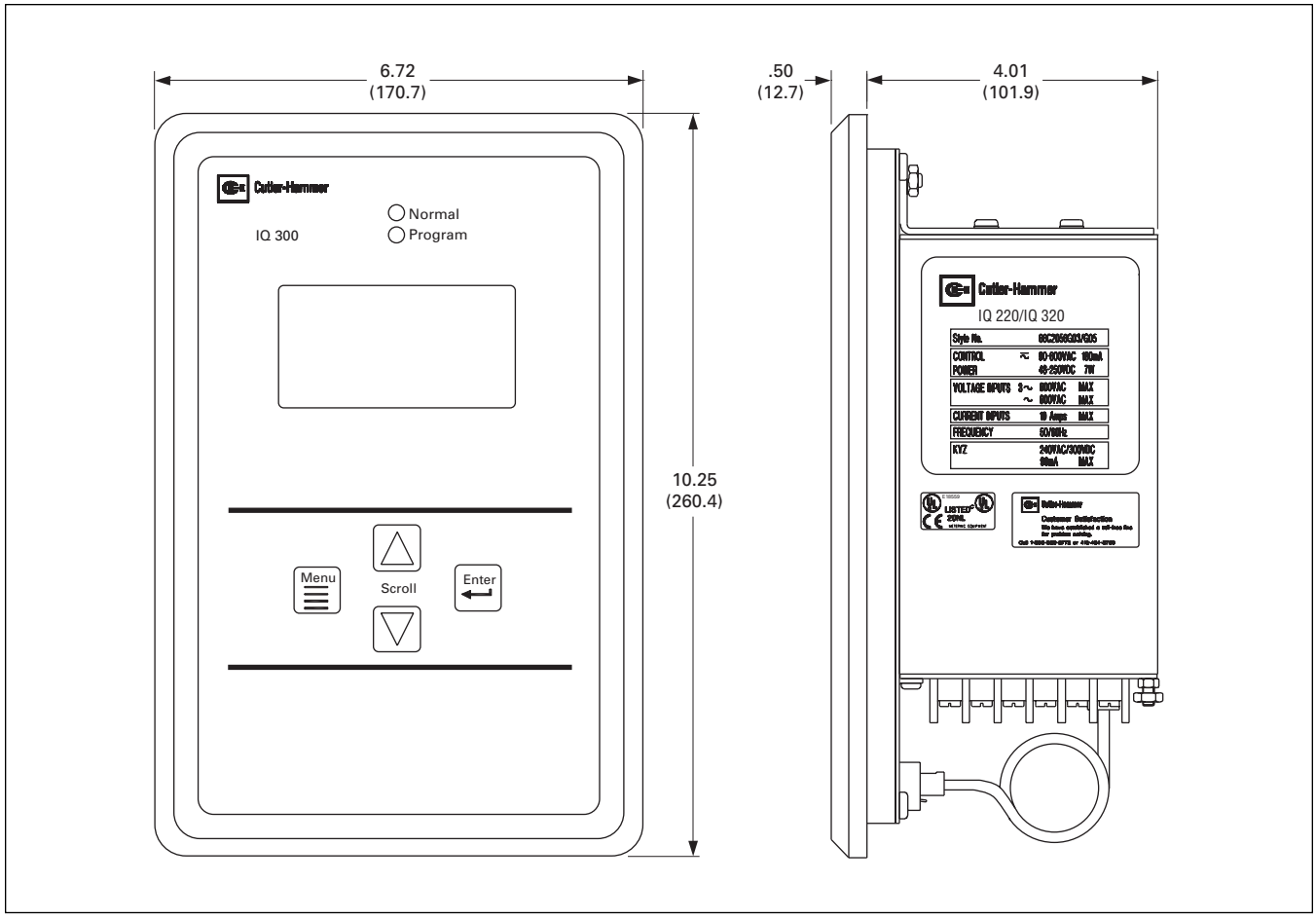

Figure 6. Dimensions for the IQ 300 Display Module with Base.

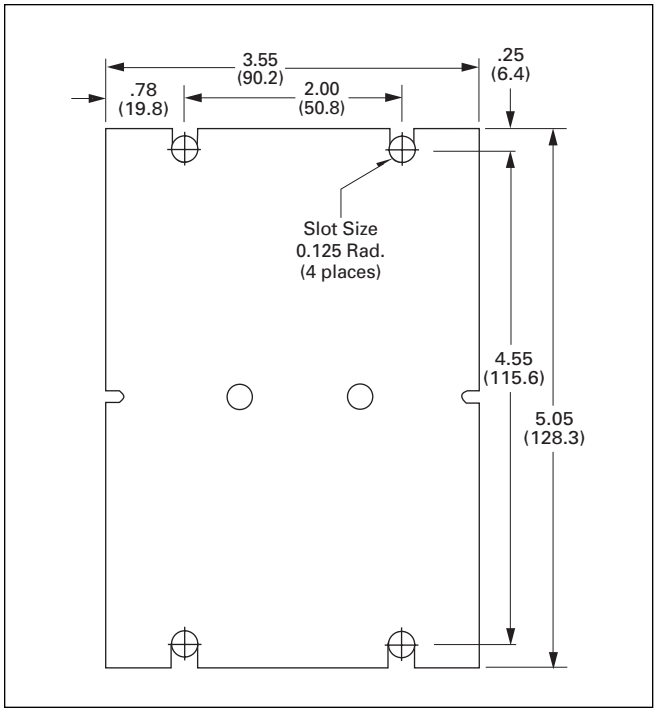

Figure 7. IQ 300 Base Mounting Hole Pattern

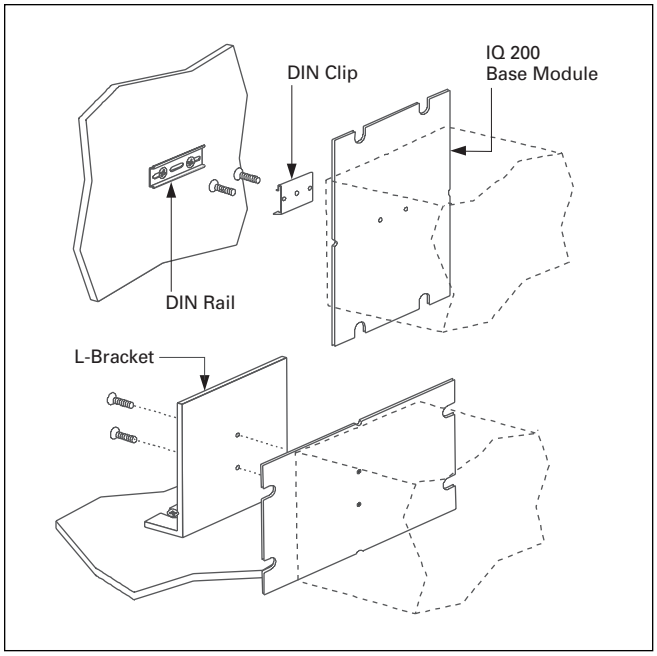

Figure 8. IQ 300 Optional Base Mounting

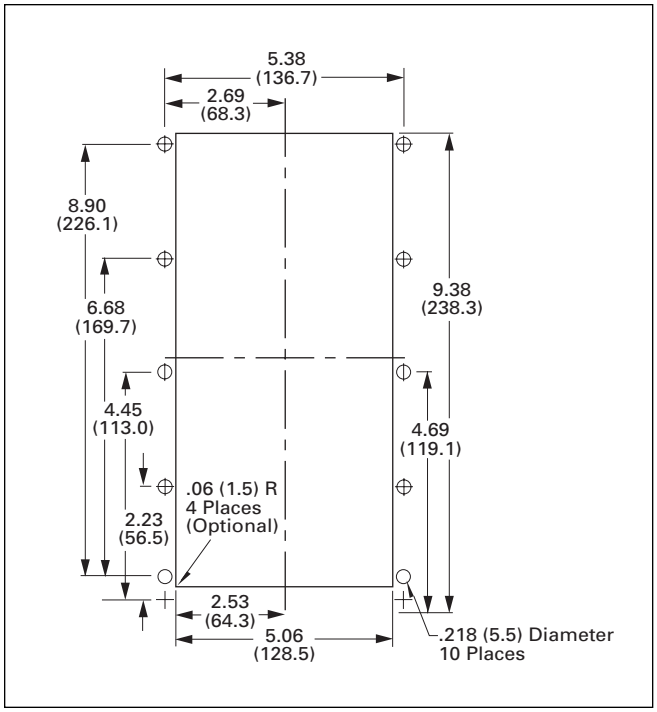

Figure 9. IQ 300 Display Mounting Hole Pattern

Table 4. Ordering Information

Description	Catalog Number
IQ 310 Complete Meter with Base Module, Display, and 14-inch (355.6 mm) Cable — no communications, no pulse output	**IQ310**
IQ 320 Complete Meter with Base Module, Display, and 14-inch (355.6 mm) Cable — with communications and pulse output	**IQ320**
IQ 300D Display Module Only	**IQ300D**
3-feet (.9m) long CAT 5 Cable	**IQ23CABLE**
6-feet (1.8m) long CAT 5 Cable	**IQ26CABLE**
10-feet (3m) long CAT 5 Cable	**IQ210CABLE**


TD1731TE