Integra 1630 digital metering system

FEATURES

- Low profile
- High contrast LED displayLED annunciators for each
- measured parameter
- User programmable system configuration (4-wire default)
- Fully programmable VT and CT ratios
- Current demand per phaseElapsed time counter for
- connected loads • Removable bezel for
- very low profile applications



Parameter	Range
Password	4-digit 0000-9999
CT primary current	Maximum 9999A ** CT Secondary Current: 5 A (1 A option)
VT primary voltage	Maximum 400 kV **
VT secondary voltage	Nominal input voltage ** maximum VT or CT ratios are limited so that the combination of primary voltage and current do not exceed 360 MW at 120% of relevant input
Demand integration time	8, 15, 20, 30, 60 minutes
3 independent resets	Demands and maximum demands Energy registers Hours run
Pulse output duration	60, 100, 200 milliseconds
Pulse rate divisors	1, 10, 100, 1000
RS485 baud rate	4.8, 9.6, 19.2, 38.4 kBd
RS485 parity and stop bits	Odd or even with 1 stop bit or no parity with 1 or 2 stop bits

APPROVALS

• IEC1010-1 (BSEN 61010-1 - 2001)

BENEFITS

- True rms measurement
- High accuracy <0.2% on some measurements
- Configurable via software package or menu-driven interface
- Import and export monitoring

The Integra 1630 digital metering system (dms) provides high accuracy 0.2% measurement, display and communication of all major electrical and power quality parameters including total harmonic distortion (THD) up to the 31st harmonic. To suit user requirements, the range includes single-phase, three-phase three-wire and three-phase four-wire capability, all selectable at the point of installation.

This DIN 96 panel mounting enclosure offers simple programming and display of up to 35 electrical parameters via a simple menu-driven user interface on the front panel. Optional pulsed and digital communication outputs are available, to allow up to 60 parameters to be communicated to building management systems. A Windows-based software package is available to remotely configure the Integra dms and display all 60 major parameters.

OPERATION

Integra 1630 dms offers uncomplicated operation and high accuracy measurement of three-phase voltage, current, frequency, Watts, VAr, VA, energy, power factor, and total harmonic distortion of both phase and system, current and voltage. Integra 1630 dms includes true measurement of both line-to-neutral, and line-to-line voltages, ensuring accurate readings. The pre-calibrated plug-in option cards allow cost effective upgrades with any combination of pulsed, analogue and digital communication outputs. Cards slot simply into the back of the unit and products do not need to be removed from the installation or recalibrated.

COMMUNICATION

- Integra 1630 dms offers a wide range of communication protocols including:
- Pulsed outputs
- Modbus RTU RS 485 Protocol
- Modbus TCP (Ethernet)
- BACnet IP Interface
- BACnet MSTP Interface
- Profibus DP Protocol

PRODUCT CODES

Description	Cat. no.
1-phase, 3-phase 3/4-wire, 100 - 240 V L-L, 5 A CT input, Aux. 100 - 250 V AC/DC	INT-1630-L-5-M-option
1-phase, 3-phase 3/4-wire, 241 - 480 V L-L, 5 A CT input, Aux. 100 - 250 V AC/DC	INT-1630-M-5-M-option
Options	
No options	000
1 pulsed output	100
2 pulsed output	200
Modbus RTU RS485 protocol	010
Modbus RTU RS485 protocol + 1 kWhr pulsed output	110
Modbus RTU RS485 protocol + 2 kWhr pulsed output	210
Profibus™	050
Modbus RTU RS485 protocol TCP	070
BACnet IP interface	080
BACnet MSTP interface	090
Extended collar	OPT-1630-collar

ENERGY /// DIGITAL METERING SYSTEMS



Controlin

Integra 1630 digital metering system

PANEL CUT-OUT



SPECIFICATIONS

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Measuring RangesImage: Construction of the sector of the sect	Current	5 – 120% of nominal
Power factor0.8 capacitive-1-0.8 inductive (functional 4 quadrant, 0-1 lag/lead)THDUp to 31st harmonic 0 - 40% Measured voltage >5% of range Full accuracy of voltage >25% of range Full accuracy of outges >25% of range Mainet temperatureEnergy7-digit resolutionReference conditions23 ±1°CInput frequency50 or 60 Hz ±2%Input waveformSinusoidal (distortion factor < 0.005)	Frequency	45 – 66 Hz
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Input frequency50 or 60 Hz ±2%Input waveformSinusoidal (distortion factor < 0.005)	Reference conditions	
Input waveformSinusoidal (distortion factor < 0.005)Auxiliary supply voltageNominal ±1%Auxiliary supply frequencyNominal ±1%AC auxiliary supply waveformSinusoidal (distortion factor < 0.05)	Ambient temperature	23 ±1°C
Auxiliary supply voltageNominal ±1%Auxiliary supply frequencyNominal ±1%AC auxiliary supply waveformSinusoidal (distortion factor < 0.05)	Input frequency	50 or 60 Hz ±2%
Auxiliary supply frequencyNominal ±1%AC auxiliary supply waveformSinusoidal (distortion factor < 0.05)	Input waveform	Sinusoidal (distortion factor < 0.005)
AC auxiliary supply waveformSinusoidal (distortion factor < 0.05)Magnetic field of external originTerrestrial fluxAccuracyVoltage±0.17% of range maximumCurrent±0.17% of nominalFrequency±0.15% of mid frequencyActive power±0.2% of range maximumPower factor1% of unityReactive power (VAr)±0.5% of range maximumApparent power (VA)±0.2% of range maximumTHD±1%Neutral current calculated±0.95% of nominalEnergy0.3% of range maximum (Better than class 1) IEC1036 Sect 4.6)KVArh0.6% of range maximum	Auxiliary supply voltage	Nominal ±1%
Magnetic field of external originTerrestrial fluxAccuracyImage: External originVoltage±0.17% of range maximumCurrent±0.17% of nominalFrequency±0.15% of mid frequencyActive power±0.2% of range maximumPower factor1% of unityReactive power (VAr)±0.5% of range maximumApparent power (VA)±0.2% of range maximumTHD±1%Neutral current calculated±0.95% of nominalEnergy0.3% of range maximum (Better than class 1) IEC1036 Sect 4.6)KVArh0.6% of range maximum	Auxiliary supply frequency	Nominal ±1%
AccuracyLength and the second sec	AC auxiliary supply waveform	Sinusoidal (distortion factor < 0.05)
Voltage±0.17% of range maximumCurrent±0.17% of nominalFrequency±0.15% of mid frequencyActive power±0.2% of range maximumPower factor1% of unityReactive power (VAr)±0.5% of range maximumApparent power (VA)±0.2% of range maximumTHD±1%Neutral current calculated±0.95% of nominalEnergy0.3% of range maximum (Better than class 1) IEC1036 Sect 4.6)KVArh0.6% of range maximum	Magnetic field of external origin	Terrestrial flux
Current±0.17% of nominalFrequency±0.15% of mid frequencyActive power±0.2% of range maximumPower factor1% of unityReactive power (VAr)±0.5% of range maximumApparent power (VA)±0.2% of range maximumTHD±1%Neutral current calculated±0.95% of nominalEnergy0.3% of range maximum (Better than class 1) IEC1036 Sect 4.6)KVArh0.6% of range maximum	Accuracy	
Frequency±0.15% of mid frequencyActive power±0.2% of range maximumPower factor1% of unityReactive power (VAr)±0.5% of range maximumApparent power (VA)±0.2% of range maximumTHD±1%Neutral current calculated±0.95% of nominalEnergy0.3% of range maximum (Better than class 1) IEC1036 Sect 4.6)KVArh0.6% of range maximum	Voltage	±0.17% of range maximum
Active power ±0.2% of range maximum Power factor 1% of unity Reactive power (VAr) ±0.5% of range maximum Apparent power (VA) ±0.2% of range maximum THD ±1% Neutral current calculated ±0.95% of rominal Energy 0.3% of range maximum (Better than class 1) IEC1036 Sect 4.6) KVArh 0.6% of range maximum	Current	±0.17% of nominal
Power factor 1% of unity Reactive power (VAr) ±0.5% of range maximum Apparent power (VA) ±0.2% of range maximum THD ±1% Neutral current calculated ±0.95% of nominal Energy 0.3% of range maximum (Better than class 1) IEC1036 Sect 4.6) KVArh 0.6% of range maximum	Frequency	±0.15% of mid frequency
Reactive power (VAr) ±0.5% of range maximum Apparent power (VA) ±0.2% of range maximum THD ±1% Neutral current calculated ±0.95% of nominal Energy 0.3% of range maximum (Better than class 1) IEC1036 Sect 4.6) KVArh 0.6% of range maximum	Active power	±0.2% of range maximum
Apparent power (VA) ±0.2% of range maximum THD ±1% Neutral current calculated ±0.95% of nominal Energy 0.3% of range maximum (Better than class 1) IEC1036 Sect 4.6) KVArh 0.6% of range maximum	Power factor	1% of unity
THD ±1% Neutral current calculated ±0.95% of nominal Energy 0.3% of range maximum (Better than class 1) IEC1036 Sect 4.6) kVArh 0.6% of range maximum	Reactive power (VAr)	±0.5% of range maximum
Neutral current calculated ±0.95% of nominal Energy 0.3% of range maximum (Better than class 1) IEC1036 Sect 4.6) kVArh 0.6% of range maximum	Apparent power (VA)	±0.2% of range maximum
Energy 0.3% of range maximum (Better than class 1) IEC1036 Sect 4.6) kVArh 0.6% of range maximum	THD	±1%
kVArh 0.6% of range maximum	Neutral current calculated	±0.95% of nominal
	Energy	0.3% of range maximum (Better than class 1) IEC1036 Sect 4.6)
Temperature coefficient Voltage and current typical: 0.013%/°C Watts typical: 0.018%/°C	kVArh	0.6% of range maximum
	Temperature coefficient	Voltage and current typical: 0.013%/°C Watts typical: 0.018%/°C



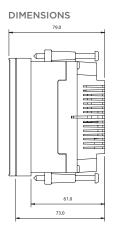
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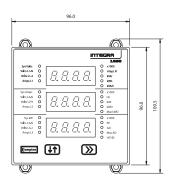
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Integra 1630 digital metering system

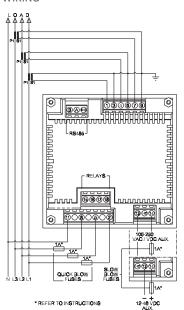
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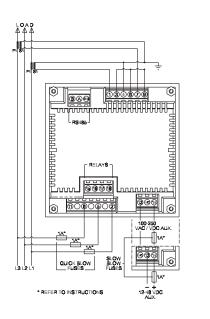
or Eon loy thorto	
Enclosure	
Enclosure style	Enclosure style
Compliant with	IEC 1010-1/ BSEN 61010-1 : 2001 CAT III, CE EMC and LVD directives
Material	Polycarbonate
Terminals	Shrouded screw-clamp 0.05 mm to 4 mm wire
Dielectric voltage	Withstand test 3.25 kV rms 50 Hz for 1 minute between all electrical circuits
Operating temperature	-20 to +60°C
Storage temperature	-30 to +80°C
Relative humidity	0 – 90% (non condensing)
Warm-up time	1 minute
Shock	30 g in 3 planes
Vibration	10-18 Hz, 1.5mm peak-to-peak 18-150 Hz @1 g
IP protection	IP54
Dimensions	96 mm wide x 96 mm high x 79 mm deep (max). Typically <60 mm depth behind panel 3.78" wide x 3.78" high x 3.11" deep (max)
Panel cut-out	92 mm x 92 mm, 3.62" x 3.62"

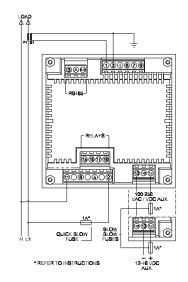




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