tyco Electronics

Energy Division
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Installation and Operating Manual
SWITCHBOARD INTEGRA 0640 & 0440

INTEGRA 0640 & 0440

Digital Metering of Volts, Amps and Frequency at 50 / 60 Hz & 400 Hz

Specification

Inputs

Three phase three wire

Voltage range ELV	100 - 120V L-L
Voltage range LOV	121 - 240V L-L
Voltage range MIV	241 - 480V L-L
Voltage range HIV	481 - 600V L-L

Three phase four wire

Voltage range ELV	100 - 120V L-L (57.7 - 70V L-N)
Voltage range LOV	121 - 240V L-L (70.1 - 139V L-N)
Voltage range MIV	241 - 480V L-L (140 - 277V L-N)
Voltage range HIV	481 - 600V L-L (277 - 346V L-N)

Voltage range is defined by factory build option.

Nominal input voltage (a.c. rms)	57.7 to 346V L-N 100 to 600V L-L
System PT/VT primary values	1 Volt to 400 kVolt
Max continuous input voltage	120% of nominal (up to 720 V max.)
Max short duration input voltage	2* nominal (1s application repeated 10 times at 10s intervals)
Nominal input voltage burden	0.2 VA approx. per phase
Nominal input current	1 or 5 A a.c. rms
System CT primary values	Standard values up to 9999 Amps (5 A secondaries) (1 A on application)
Max continuous input current	120% of nominal
Max short duration current input	20* nominal (1s application repeated 5 times at 5 min intervals)
Nominal input current burden	0.6VA approx. per phase

Auxiliary

Standard supply voltage	100 to 250V AC nominal ±15% (85V AC absolute minimum to 287V AC absolute maximum) or 100V to 250V DC nominal +25%, -15% (85V DC absolute minimum to 312V DC absolute maximum)
a.c. supply frequency range	45 to 66 Hz or 360 to 440 Hz
a.c. supply burden	3W
Optional auxiliary d.c.supply	12 to 48V DC. nominal +25%, -15% (10.2V DC absolute minimum to 60V DC absolute maximum)
d.c. supply burden	3W

Measuring Ranges

Values of measured quantities for which errors are defined.

Voltage	70 .. 120% of nominal
Current	5 .. 120% of nominal
Frequency	45 .. 66 Hz (Integra 0640)

Accuracy Integra 0640

Voltage	0.4% of reading ±0.1% of range
Current	0.4% of reading ±0.1% of range
Frequency	0.15% of mid frequency
Temperature coefficient	0.013%/°C typical
Response time to step input	1.5 seconds approx.

EMC Standards

EMC Immunity	EN61326 for Industrial Locations to performance criterion A
EMC Emissions	EN61326 to Class B - Domestic

Safety

IEC1010-1 (BSEN 61010-1)	Permanently connected use, Normal Condition Installation category III, pollution degree 2, Basic Insulation 720V RMS maximum. All terminals are for use only with equipment that has no live parts WHICH ARE ACCESSIBLE and the insulation for external circuits is to be suitable for SINGLE FAULT CONDITIONS.

Insulation

Dielectric voltage withstand test	3.25kV RMS 50Hz for 1 minute between all electrical circuits

Environmental

Operating temperature	-20 to +70°C
Storage temperature	-20 to +80°C
Relative humidity	0 .. 95% non condensing
Shock	30g in 3 planes
Vibration	10-150 Hz, 1g/0.15mm amplitude
Enclosure integrity	(front face only) IP54

Enclosure

Style	ANSI C39.1
Material	Polycarbonate front and base, steel case
Terminals	6-32 UNC slotted barrier type

Auxiliary Supply

INTEGRA should ideally be powered from a dedicated supply, however it may be powered from the signal source, providing the source remains within tolerance for the auxilary supply.

Fusing

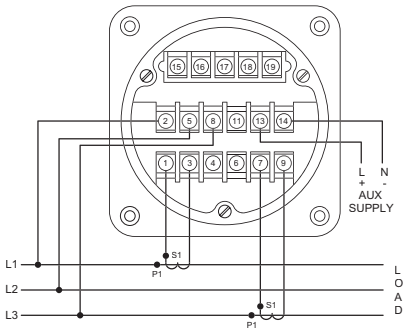
This unit must be fitted with external fuses in voltage and auxiliary supply lines. Voltage input lines must be fused with a quick blow fuse 1A maximum. Auxiliary supply lines must be fused with a slow blow fuse rated 1A maximum. Choose fuses of a type and with a breaking capacity appropriate to the supply and in accordance with local regulations.

Earth/Ground Connections

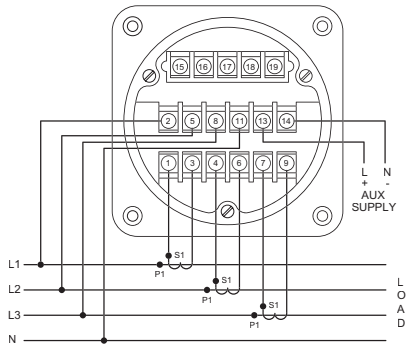
For safety reasons, CT secondary connections should be grounded in accordance with local regulations.

Connection Diagrams

3-PHASE 3-WIRE UNBALANCED LOAD



3-PHASE 4-WIRE UNBALANCED LOAD



Voltage lines and auxiliary supplied must be fused - see above.