

AMIK Three Phase Digital Panel Meters

Special Features

- 3 Line 4 Digits ultra bright LED Display
(up to 9999) On site Programmable CT/PT Ratios
- User selectable CT Secondary 1A/5A
- User selectable 3ph 3wire / 3ph 4wire / single phase Network
- Storage of MIN / MAX values
- Measurement & Display of RPM, Run hours, ON hours & No. of Interrupts
- Limit switch with one relay
- UL and CSA listed
- Don't require PT for the voltage measurement up to 500 ACV



Amik 100 is a compact multifunction instrument which measures important electrical parameters in 3 phase 4 Wire and 3 phase 3 Wire Network & replaces multiple analog panel meters

Electrical Parameters

| Sr No | Parameter | 3 Phase 4 Wire | 3 Phase 3 Wire | 1 Phase 2 Wire |
|-------|---------------------------------------|----------------|----------------|----------------|
| 1 | System Volts | ✓ | ✓ | ✓ |
| 2 | System Current | ✓ | ✓ | ✓ |
| 3 | Frequency | ✓ | ✓ | ✓ |
| 4 | Volts R-N | ✓ | * | ✓ |
| 5 | Volts Y-N | ✓ | * | * |
| 6 | Volts B-N | ✓ | * | * |
| 7 | Volts R-Y | ✓ | ✓ | * |
| 8 | Volts Y-B | ✓ | ✓ | * |
| 9 | Volts B-R | ✓ | ✓ | * |
| 10 | Current R | ✓ | ✓ | ✓ |
| 11 | Current Y | ✓ | ✓ | * |
| 12 | Current B | ✓ | ✓ | * |
| 13 | RPM | ✓ | ✓ | ✓ |
| 14 | Max (System Voltage / System Current) | ✓ | ✓ | ✓ |
| 15 | Min (System Voltage / System Current) | ✓ | ✓ | ✓ |
| 16 | Hour Run | ✓ | ✓ | ✓ |
| 17 | ON Hour | ✓ | ✓ | ✓ |
| 18 | Number of auxiliary interrupt | ✓ | ✓ | ✓ |

Ordering Information

| | | |
|-------------------------|-----------------------|------------------|
| Product Code | AMIK 100 | Catalog No. A100 |
| Display Type | 3 Line | |
| System Type | 1 Line (20mm display) | |
| | 3 Ph. (PR. 3W or 4W) | |
| | 1 Ph. | |
| Input Voltage / Current | 100 TO 500VL-L 1/5A | |
| Power Supply | 40 V – 300 VAC / DC | |
| Limit switch | Limit switch relay | |

Accessories – Three-Phase Current Transformer

A three-phase terminal style current transformer must be used with AMIK three phase meters.

The current transformer is equipped with terminals to permit easy connection to the AMIK units.

These terminals are #8-32 brass studs and come with a flatwasher, lockwasher and a regular nut (leads are not provided).



Ordering Information

| Catalog Number | Current Ratio | Accuracy @ 60 Hz | Burden VA @ 60 Hz |
|----------------|---------------|------------------|-------------------|
| 37026 | 50:5 | ± 3% | 2.0 |
| 37027 | 100:5 | ± 2% | 2.0 |
| 37028 | 150:5 | ± 1% | 4.0 |
| 37029 | 200:5 | ± 1% | 5.0 |
| 37030 | 300:5 | ± 1% | 10.0 |

Application

Amik 100 measures important electrical parameters in 3 phase 4 Wire and 3 phase 3 Wire Network & replaces the multiple analog panel meters. It measures electrical parameters like AC Voltage, AC Current, & many more.

Product Features

| | | | |
|--|--|---|--|
| On site programmable PT/CT ratios | It is possible to program primary of the external potential Transformer (PT), primary of external Current Transformer (CT) on site via front panel keys by entering into Programming mode. | Onsite selection of Auto scroll / Fixed Screen | User can set the display in auto scrolling mode or fixed screen mode using front panel keys. |
| User selectable CT Secondary 5A / 1A | The secondary of external Current Transformer (CT) can be programmed on site to either 5A or 1A using front panel keys. | Low back depth | The instrument has very low back depth (behind the panel) of less than 55mm (without output options). |
| User selectable PT Secondary | The secondary of external Potential Transformer (PT) can be programmed on site from 100VLL to 500VLL using front panel keys. | True RMS measurement | The instrument measures distorted waveform up to 15th Harmonic. |
| User selectable 3 phase 3Wire 4Wire or Single phase Network | User can program on site the network connection as either 3 Phase 3 Wire/4 Wire or single phase network using front panel keys. In case of self powered configuration either 3 Phase 4 wire or single phase network are available. | EMC Compatibility | Compliance to International standard IEC 61326. Interference Emission IEC 61326-1 : 2005, Class, A Interference Immunity IEC 61326-1 : 2005 Electrostatic discharge IEC 61000-4-2 -- 4kV/8kV contact/air. (ESD) |
| RPM Measurement | The instrument display Rotation per minutes for generator applications. Number of poles can be set on site depending upon application requirement. | EM Field | IEC 61000-4-3 -- 10 V/m (80 MHz to 1 GHz) -- 3 V/m (1.4 GHz to 2 GHz) -- 1 V/m (2 GHz to 2.7 GHz) |
| Limit switch (Relay) | The instrument will trip the relay if the programmed parameter exceeds the programmed Trip Limits. | Burst | IEC 61000-4-4 -- 2 kV (5/50 ns, 5 kHz) |
| 3 line 4 digits LED display | Simultaneous display of 3 Parameters. | Surge | IEC 61000-4-5 -- 1 kVLL / 2 kVLN. |
| Enclosure Protection for dust and water | Conforms to IP 50 (for front face) or IP 65 option (for front with seal) & IP 20 (for back) & as per IEC60529. | Conducted RF | IEC 61000-4-5 -- 3 V (150 kHz to 80 MHz) |
| Storage of parameters possible | The instrument stores minimum and maximum values for System Voltage, System Current, Run Hour, ON Hour & number of Interrupts. Every 60 sec stored values are updated. | Rated Power Frequency magnetic Field | IEC 61000-4-8 -- 30 A/m |
| Four function keys | Using the four function key, it is possible to go desired parameter screen instantly. | Voltage dip | IEC 61000-4-1 40% during 10/12 cycles. 70% during 25/30 cycles. |
| | | Short interruptions | IEC 61000-4-11 0% during 25/30 cycles. 25 cycles for 50 Hz test. 30 cycles for 60 Hz test. |

Technical Specifications

Reference conditions for Accuracy

| | |
|----------------------------|--------------------------------------|
| Reference temperature | 23°C +/- 2°C |
| Input waveform | Sinusoidal (distortion factor 0.005) |
| Input frequency | 50 or 60 Hz ±2% |
| Auxiliary supply voltage | Rated Value ±1% |
| Auxiliary supply frequency | Rated Value ±1% |

Accuracy

| | |
|-----------|---|
| Voltage | ±1% of range (20... 100% of Nominal value) |
| Current | ±1% of range (10... 100% of Nominal value) |
| Frequency | 0.5% of mid frequency |

Input Voltage

| | |
|--------------------------------|--|
| Nominal input voltage (AC RMS) | Phase –Neutral 290V L-N , Line-Line 500V L-L |
| Max continuous input voltage | 120% of rated value |
| Nominal input voltage burden | < 0.3 VA approx. per phase (For external auxiliary meter) |
| System PT secondary values | 100VLL to 500VLL programmable on site. |
| System PT primary values | 100VLL to 692kVLL programmable on site. |

Input Current

| | |
|------------------------------|--|
| Nominal input current | 5A AC RMS |
| System CT secondary values | 1A & 5A programmable on site |
| System CT primary values | From 1A up to 9999A (for 1 or 5 Amp) |
| Max continuous input current | 120% of rated value |
| Nominal input current burden | < 0.2 VA approx. per phase |

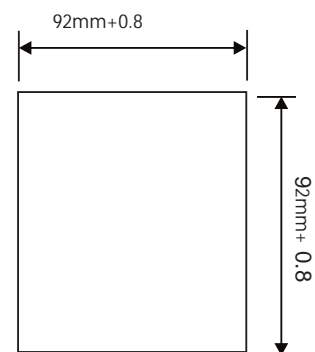
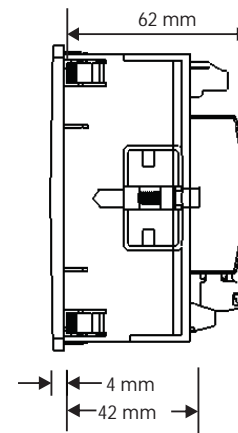
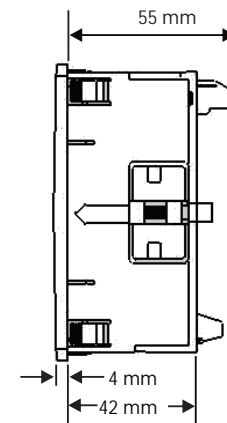
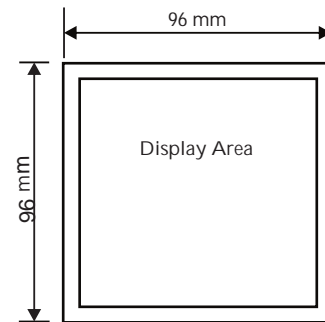
Auxiliary Supply

| | |
|-----------------|--|
| External Aux | 40 V – 300V AC-DC (± 5 %) |
| Self powered ** | Input voltage range from 80% to 100% of Rated value. (Self powered meter is available only in 3Phase 4 Wire and Single Phase network.) Auxiliary input is derived from Phase 1 (R phase) |
| Frequency range | 45 to 65 Hz |
| VA burden | 3 VA Approx. |

** Not Available

Dimension Details

With optional Limit switch



Panel Cutout

Technical Specifications

Overload Withstand

| | |
|---------|--|
| Voltage | 2 x rated value for 1 second, repeated 10 times at 10 second intervals |
| Current | 20x rated value for 1 second, repeated 5 times at 5 min intervals |

Operating Measuring Ranges

| | |
|---------------------------------|----------------------------|
| Voltage Range With External Aux | 10... 120% of rated value |
| Voltage Range With Self Power | 80... 120% of rated value |
| Current Range | 10 ... 120% of rated value |
| Frequency | 45...65 Hz |

Influence of Variations

| | |
|-------------------------|---|
| Temperature coefficient | 0.025%/°C for Voltage 0.05%/°C for Current |
|-------------------------|---|

Limit Switch (Relay)

| | |
|---------------------------------------|------------------------|
| Switching Voltage & Current for Relay | 240 VDC ,5 A (1NO+1NC) |
|---------------------------------------|------------------------|

Enclosure

| | |
|--------------------------|----------|
| Front | IP 50 |
| Front with seal (Option) | IP 65 ** |
| Back | IP 20 |

Environmental

| | |
|-----------------------|-------------------------------|
| Operating temperature | -20° to +70°C |
| Storage temperature | -30°C to +80°C |
| Relative humidity | 0 to 95% non condensing |
| Warm up time | Minimum 3 minute |
| Shock | 15g in 3 planes |
| Vibration | 10... 55 Hz, 0.15mm amplitude |

Safety

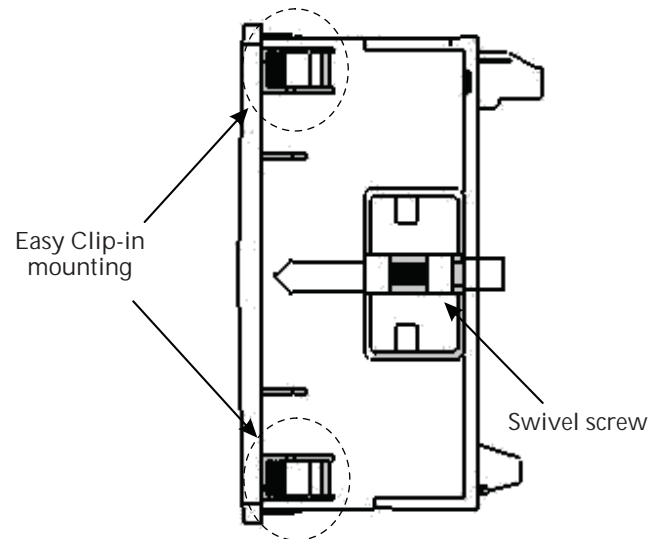
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| Pollution degree | 2 |
| Installation category | III |
| High Voltage Test | 3.3 kV AC, 50Hz for 1 minute between Aux. and measuring inputs |

Applicable Standards

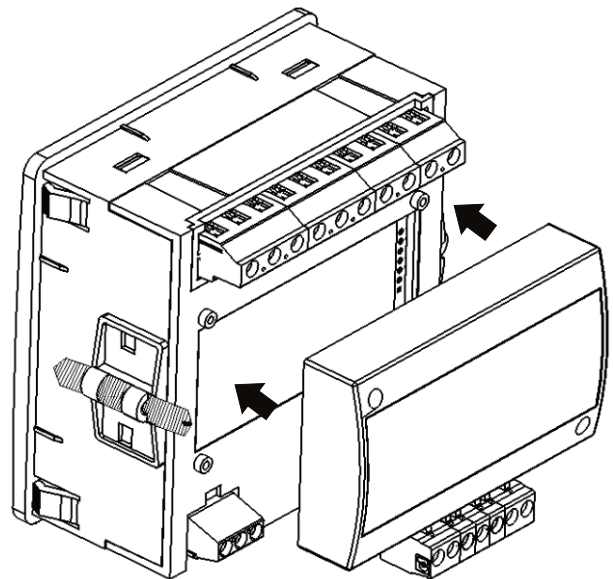
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|---------------------|---|
| EMC | IEC 61326-1: 2005 |
| Safety | IEC 61010-1-2001 , Permanently connected use |
| IP for water & dust | IEC60529 |

Installation

Easy Clip in Installation on Panel



Panel Thickness : 1 - 3 mm for self clicking,
1 - 6 mm for swivel screws.



Optional Limit Switch pluggable module.

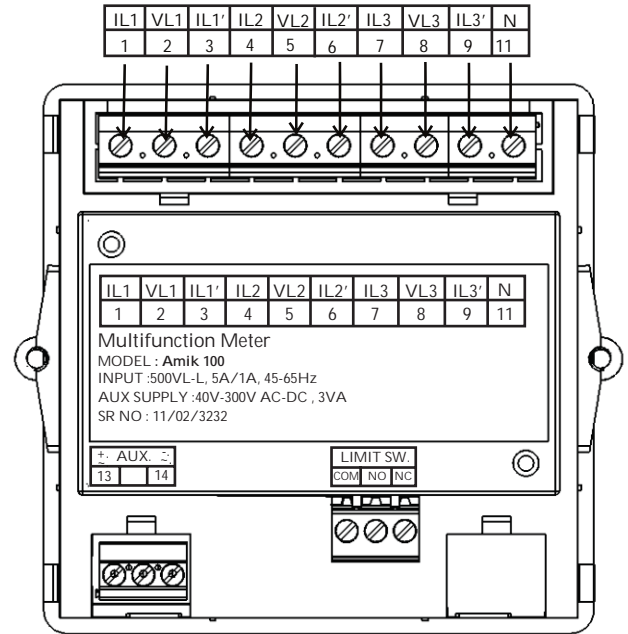
** Not Available

Technical Specifications

Dimensions and Weight

| | |
|-----------------|--|
| Bezel size | 96 mm x 96 mm DIN 43 718. |
| Panel cut-out | 92 +0.8 mm x 92 + 0.8 mm. |
| Overall depth | 55 mm (without output options) 62 mm (with output options). |
| Panel Thickness | 1 - 3 mm for self clicking, 1 – 6 mm for swivel screws. |
| Weight | 320 gm. Approx (with output options).. |

Rear Connection



Electrical Connections

| | Self Powered Aux | External Powered Aux |
|---|------------------|----------------------|
| 3 Phase 4 Wire Unbalanced Load | | |
| 3 Phase 3 Wire Unbalanced Load | Not Applicable | |
| 1 Phase 2 Wire | | |

*Note: For Measurement of parameters, Voltage must be present between terminal 2 & 11 for single phase or 3 phase 4 wire network and between terminal 2 & 5 or 2 & 8 for 3 phase 3 wire network.

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