

HOUR METERS & COUNTERS

Hour Meter Series HM 36

Digital Hour Meters

Impulse Counter Series CR 18

Impulse Counter Series CR 26

Impulse Counter Series CR 36

Digital Counters

Digital Hour Meter & Counter

Rate Indicator & Totaliser



Hour Meter Series HM36

- Robust design with high degree of Accuracy and Compact size
- Frequency independent for AC applications
- Indicates operating time in hours and tenths with running indicators
- Totally sealed from Dust and Moisture
- Panel mountable with 7 Bezel options
- 6 Digit Non-Resettable with automatic recycle to zero
- Wide supply voltage range: 4 - 30V AC/DC, 10 - 80V DC & 90 - 264V AC
- Shock & Vibration Proof



Ordering Information

| Cat. No. | Description |
|----------|--|
| LA21F1 | 90 - 264 VAC, Rectangular Bezel |
| LA22F1 | 90 - 264 VAC, Rectangular 2 holes Bezel |
| LA23F1 | 90 - 264 VAC, Round Bezel |
| LA24F1 | 90 - 264 VAC, Round 3 holes Bezel |
| LA25F1 | 90 - 264 VAC, Square Mount Bezel |
| LA26F1 | 90 - 264 VAC, Cup Mount Bezel |
| LA27F1 | 90 - 264 VAC, Stirrup Mount Bezel |
| LD11F1 | 10 - 80 VDC, Rectangular Bezel |
| LD12F1 | 10 - 80 VDC, Rectangular 2 holes Bezel |
| LD13F1 | 10 - 80 VDC, Round Bezel |
| LD14F1 | 10 - 80 VDC, Round 3 holes Bezel |
| LD15F1 | 10 - 80 VDC, Cup Mount Bezel |
| LD16F1 | 10 - 80 VDC, Stirrup Mount Bezel |
| LD17F1 | 10 - 80 VDC, Square Mount Bezel |
| LC31F1 | 4 - 30 VAC/DC, Rectangular Bezel |
| LC32F1 | 4 - 30 VAC/DC, Rectangular 2 holes Bezel |
| LC33F1 | 4 - 30 VAC/DC, Round Bezel |
| LC34F1 | 4 - 30 VAC/DC, Round 3 holes Bezel |
| LC35F1 | 4 - 30 VAC/DC, Cup Mount Bezel |
| LC36F1 | 4 - 30 VAC/DC, Stirrup Mount Bezel |
| LC37F1 | 4 - 30 VAC/DC, Square Mount Bezel |

Hour Meter Series HM36



| Cat. No. | LA25F1 | LD15F1 | LC36F1 |
|--|----------------------------------|---|---|
| Parameters | | | |
| Supply Voltage (⊕) | 90 - 264 VAC | 10 - 80 VDC | 4 - 30 VAC/DC |
| Frequency | 50/60 Hz | N A | 50/60 Hz |
| Over Voltage & Reverse Polarity Protection | N A | Protected for 2 times Battery voltage and / or Reverse polarity | Not applicable to AC and 48V for DC Application |
| Power Consumption (Max.) | 0.5 VA | 0.25 VA | 1 VA |
| Bezel | Square Mount | Cup Mount | Stirrup Mount |
| Register | 6 Digit (3.6mm) | | |
| Read Out | 99999.9 | | |
| Least Count | 1/10 h | | |
| Accuracy | ± 0.02% over entire range | | |
| Vibration | 10-80Hz with 20g max (SAE J1378) | | |
| Shock | 55g @ 9-13ms (SAE J1378) | | |
| Weight (unpacked) | 47g | | |
| Temperature | -40° C to +85° C | | |
| Humidity (Non Condensing) | 95% (Rh) | | |
| Mounting | Panel | | |
| Termination | ¼" [6.3] Spade Terminal | | |
| Degree of Protection | IP 66 | | |
| Approvals | SAE & NEMA 4X | | SAE & NEMA 4X |
| | | | |

VIEWS OF DIFFERENT BEZELS



Rectangular Bezel



Rectangular 2 holes Bezel



Round Bezel



Round 3 holes Bezel



Cup Mount Bezel



Stirrup Mount Bezel

Hour Meter Series HM36

- Robust design with high degree of Accuracy and Compact size
- Frequency independent for AC applications
- Indicates operating time in hours and tenths with running indicators
- Totally sealed from Dust and Moisture
- 6 Digit Non-Resettable with automatic recycle to zero
- Wide supply voltage range: 90 - 460V AC, 10 - 80V DC & 110 V DC
- Suitable for Control Panel applications



Ordering Information

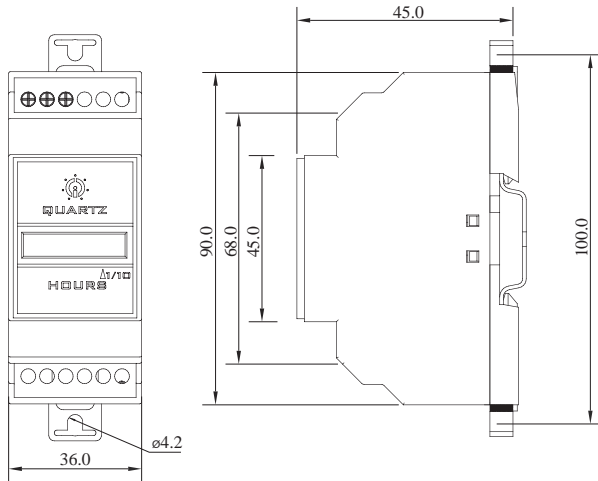
| Cat. No. | Description |
|----------|---|
| 30A6B1 | 90 - 264 / 270 - 460 V AC, Hour Meter, Base/DIN |
| 30A7B1 | 48 V AC, Hour Meter, Base/DIN |
| 30D1B1 | 10 - 80 V DC, Hour Meter, Base/DIN |
| 30D4B1 | 110 VDC, Hour Meter, Base/DIN |

Hour Meter Series HM36

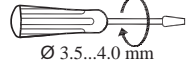



| Cat. No. | 30A6B1 | 30D1B1 | 30D4B1 |
|-----------------------------|--|---------------|---------------|
| Parameters | | | |
| Supply Voltage (Φ) | 90 - 264 / 270 - 460 VAC | 10 - 80 VDC | 110 VAC |
| Frequency | 50/60 Hz | N A | N A |
| Over Voltage | N A | 96 VDC, 1 min | 96 VDC, 1 min |
| Reverse Polarity Protection | N A | Yes | Yes |
| Power Consumption (Max.) | 1 VA Max | 0.25 VA | 0.5 VA |
| Register | 6 Digit (3.6mm) | | |
| Read Out | 99999.9 | | |
| Least Count | 1/10 h | | |
| Accuracy | ± 0.02% over entire range | | |
| Vibration | 10-80Hz with 20g max (SAE J1378) | | |
| Shock | 55g @ 9-13ms (SAE J1378) | | |
| Weight (unpacked) | 70g | | |
| Operating Temperature | -5° C to +55° C | | |
| Storage Temperature | -20° C to +70° C | | |
| Humidity (Non Condensing) | 95% (Rh) | | |
| Mounting | Base/DIN Rail | | |
| Termination | ¼" [6.3] Spade Terminal | | |
| Degree of Protection | IP 20 for Terminals, IP 40 for Enclosure | | |
| Approvals | | | |

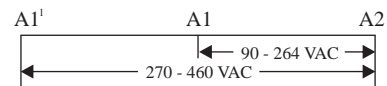
MOUNTING DIMENSIONS (mm)



TERMINAL TORQUE & CAPACITY

| | |
|--|--|
|  Ø 3.5...4.0 mm | Torque - 0.54 N.m (5 Lb.in) Terminal screw - M2.6 |
|  | Solid Wire - 1 X 0.2...3.3 mm ² |
| AWG | 1 X 24 to 12 |

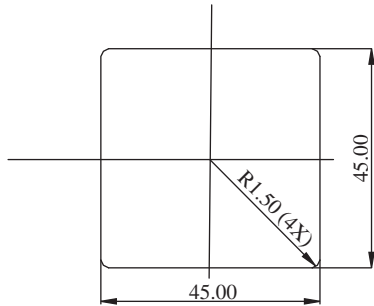
CONNECTION DIAGRAM



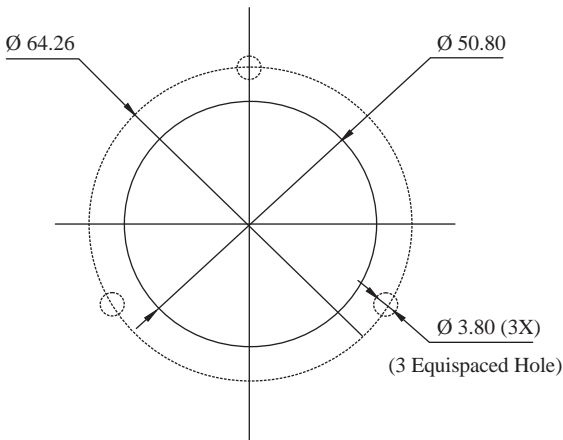
Hour Meter Series HM36

MOUNTING DIMENSION (mm)

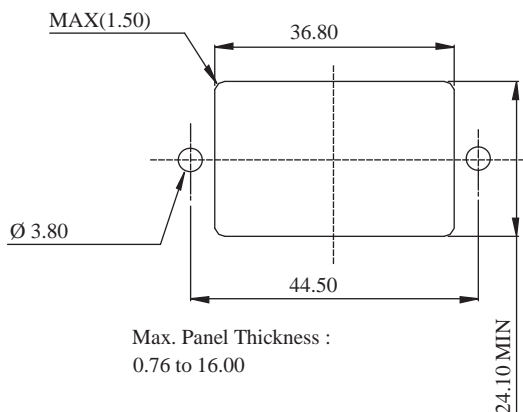
SQUARE MOUNT BEZEL (45 X 45 PANEL CUTOUT)



ROUND BEZEL, ROUND 3 HOLES BEZEL, CUP MOUNT BEZEL & STIRRUP MOUNT BEZEL

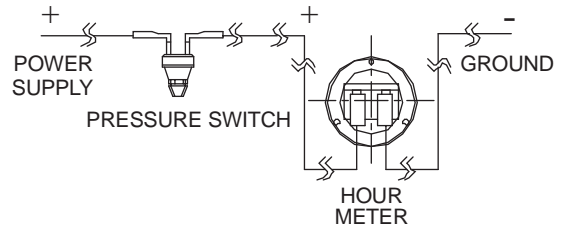
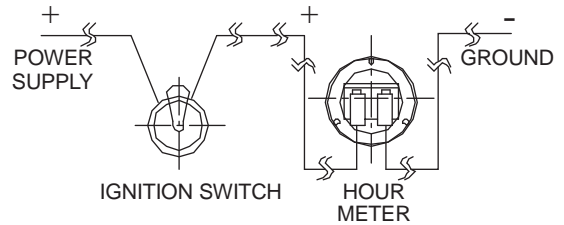


RECTANGULAR BEZEL

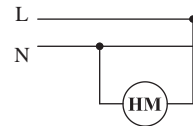


CONNECTION DIAGRAM

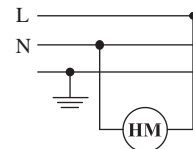
FOR: DC SERIES



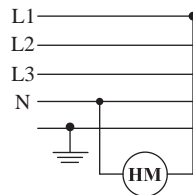
FOR: AC SERIES



Single phase, 2 wire, 120/240 V system:
Connect power wire to one terminal and neutral wire to opposite terminal.



Single phase, 3 wire, 120/240 V system:
Connect any one power wire to one terminal and neutral wire to opposite terminal.



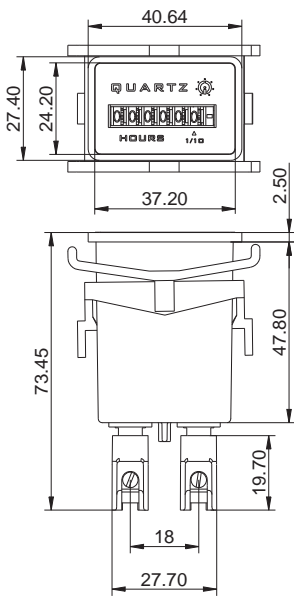
Three phase, 4 wire, 120/240 V system:
Connect any one power wire to one terminal and neutral wire to opposite terminal.

CAUTION

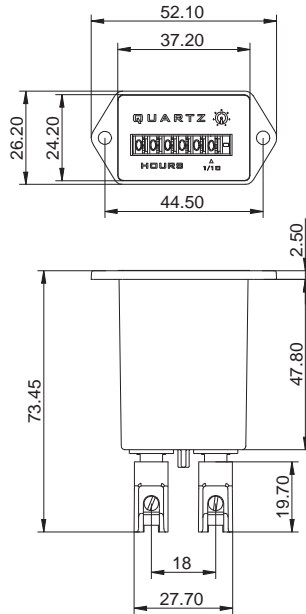
Tighten terminals with flat head screwdriver with tip size 4.3 x 0.6 mm.

Hour Meter Series HM36

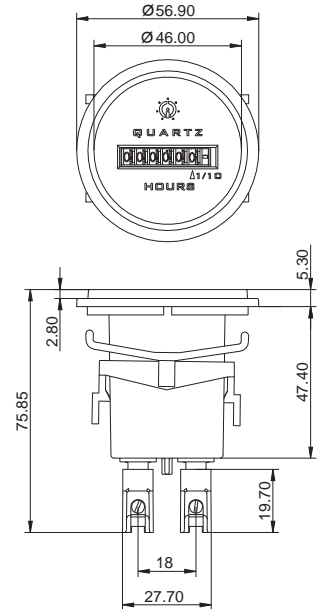
VIEWS OF DIFFERENT BEZELS



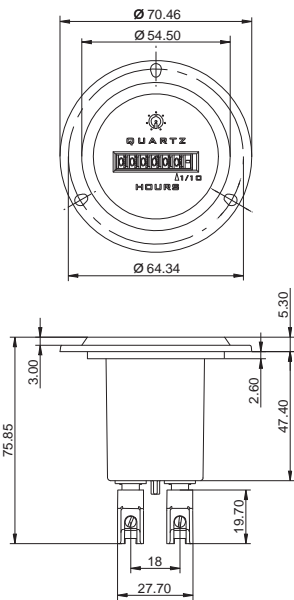
Rectangular Bezel



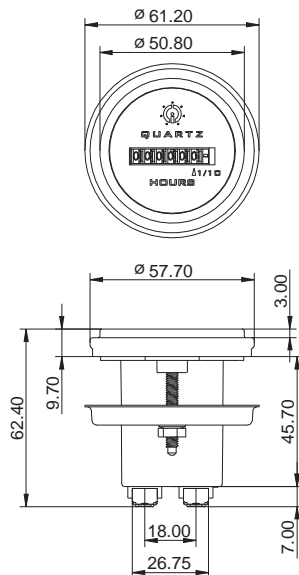
Rectangular 2 holes Bezel



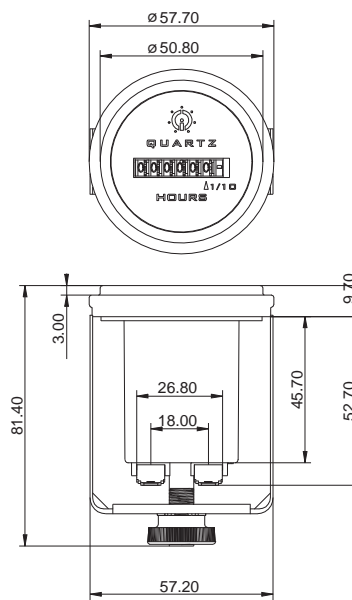
Round Bezel



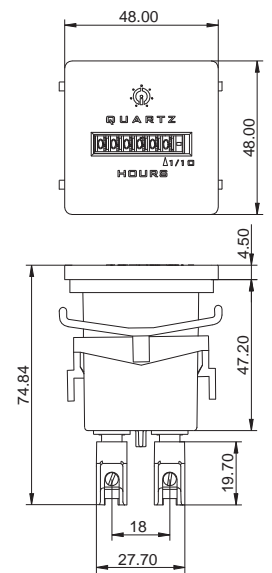
Round 3 holes Bezel



Cup Mount Bezel



Stirrup Mount Bezel



Square Bezel

Dimensions in mm

Digital Hour Meter

- 6-digit LCD
- In-built nonvolatile memory (EEPROM) offering exceptional reliability
- Wide range of supply voltage
- Remote reset
- Available in 3 different Bezels
- Low Power Consumption





Ordering Information

| Cat. No. | Description |
|----------|---|
| Z71FBX | 85-265 VAC model |
| ZJ1FBX | 12-48 VAC/DC model |
| ZH1FBX | 10-80 VDC model |
| X | A = Round Bezel, B = 24x48 Bezel, C = Screw Mount Bezel |

Digital Hour Meter



| Cat. No. | Z71FBX | ZJ1FBX | ZH1FBX |
|--------------------------|---|----------------|-------------|
| Parameters | | | |
| Supply Voltage (中) | 85 - 265 VAC | 12 - 48 VAC/DC | 10 - 80 VDC |
| Frequency | 50/60 Hz | 50/60 Hz | N A |
| Power Consumption (Max.) | 0.8 VA | 0.4 W | 0.6 W |
| Range | 99999.9 h | | |
| Display | 6-digit LCD 5mm Height | | |
| Resolution | 1/10 h | | |
| Accuracy | ± 0.02% | | |
| Memory Retention | 100 Years | | |
| Operating Temperature | -10° C to +50° C | | |
| Storage Temperature | -20° C to +65° C | | |
| Humidity | 95% (Rh) | | |
| Degree of Protection | IP54 (for front side only) | | |
| Enclosure | UL94-V0 | | |
| Terminals | 1, 2: Input Supply, 3: Enable 4: Reset | | |
| Panel cut outs | Round Bezel, 24 x 48 Bezel, Screw Mount Bezel | | |
| Mounting | Flush / Panel Mounting | | |
| Certification |   | | |
| Weight (unpacked) | With Round Bezel- 35g, with 24 x 48 Bezel- 29 g, with Screw Mount Bezel- 31 g | | |

EMI / EMC

| | |
|-----------------------------------|----------------|
| Harmonic Current Emissions | IEC 61000-3-2 |
| ESD | IEC 61000-4-2 |
| Radiated Susceptibility | IEC 61000-4-3 |
| Electrical Fast Transients | IEC 61000-4-4 |
| Surges | IEC 61000-4-5 |
| Conducted Susceptibility | IEC 61000-4-6 |
| Voltage Dips & Interruptions (AC) | IEC 61000-4-11 |
| Voltage Dips & Interruptions (DC) | IEC 61000-4-29 |
| Conducted Emission | CISPR 14-1 |
| Radiated Emission | CISPR 14-1 |

Environmental

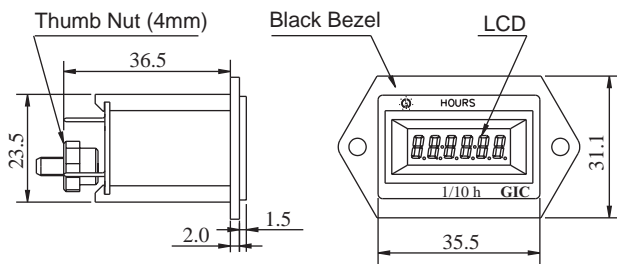
| | |
|----------------------|----------------|
| Cold Heat | IEC 60068-2-1 |
| Dry Heat | IEC 60068-2-2 |
| Vibration | IEC 60068-2-6 |
| Repetitive Shock | IEC 60068-2-27 |
| Non-Repetitive Shock | IEC 60068-2-27 |

Digital Hour Meter

MOUNTING DIMENSION (mm)

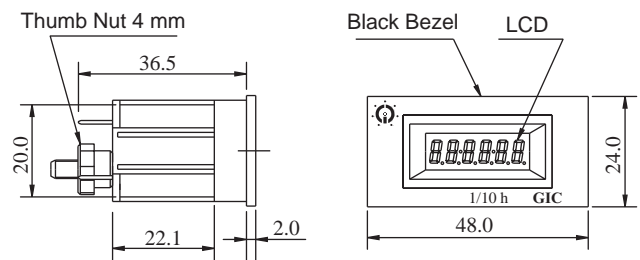
DIGITAL HOUR METER

SCREW MOUNT BEZEL



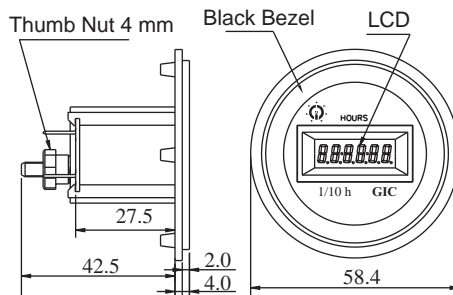
Recommended Panel Cutout :
37.0 (+0.5)mm x 24.6 (+0.5)mm

24X48 BEZEL



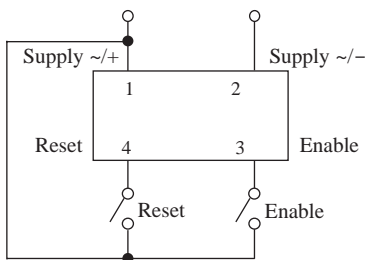
Recommended Panel Cutout :
45.5 (+0.5)mm x 23.0 (+0.5)mm

ROUND BEZEL



Recommended Panel Cutout :
37.0 (+0.5)mm x 24.6 (+0.5)mm

CONNECTION DIAGRAM



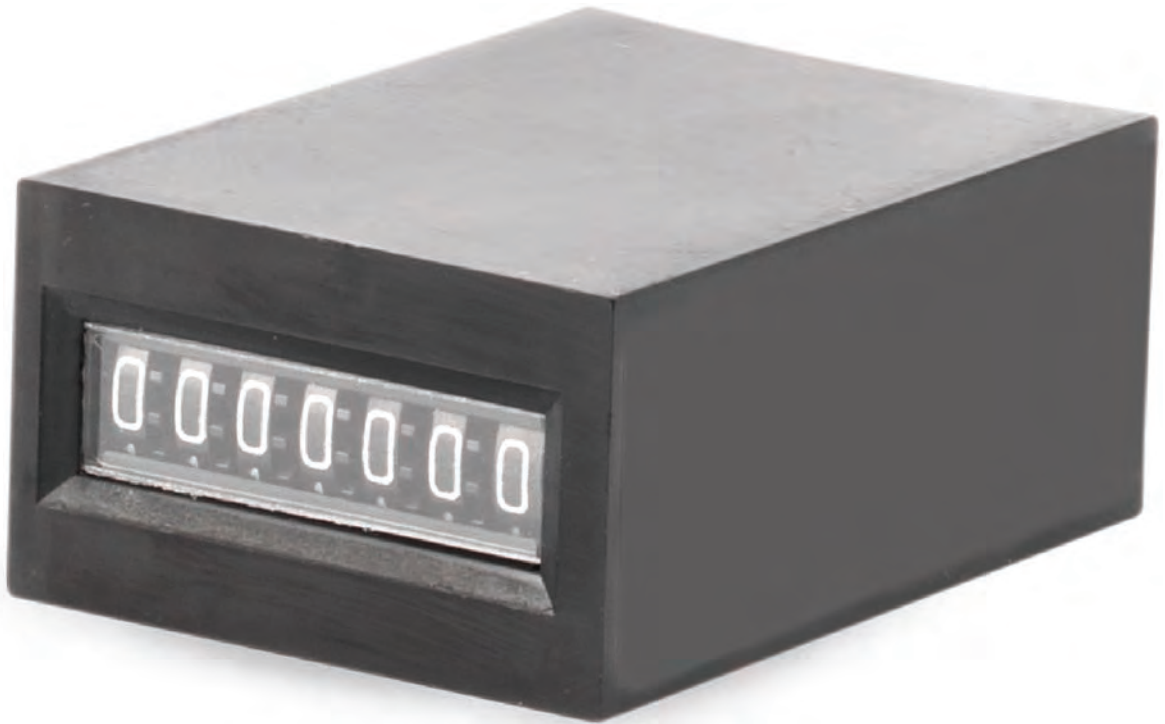
TERMINAL DESCRIPTION

- Pin 1: Supply (~ / +)
- Pin 2: Supply (~ -)
- Pin 3: Enable
- Pin 4: Reset

DIGITAL HOUR METER

Impulse Counter Series CR 18


- 7-digit Compact Size
- High Accuracy and Reliability
- Requires no lubrication or maintenance
- Ideal where space is limitation
- Mounting options: Panel, PCB



Ordering Information

| Cat. No. | Description |
|----------|--|
| ED11A | 12 V DC, Behind the panel (Screw mount) |
| ED11B | 12 V DC, Behind the Panel With out Seal Hole (Screw mount) |
| ED22D | 24 V DC, PCB mount (Straight) |
| ED23D | 24 V DC, PCB mount (Right angle) |
| ED24C | 24 V DC, Panel (Snap-in type) |

Impulse Counter Series CR 18

| Cat. No. | ED11A | ED11B | ED22D | ED23D | ED24C |
|---------------------------|--|-----------------------------|---------------------------------|-----------------------------------|--|
| Parameters | | | | | |
| Supply Voltage (±) | 12 V DC | | 24 V DC | | |
| Supply Variation | -15% to +10% | | ±10% | | -15% to +10% |
| Power Consumption (Max.) | 1.2 W | | | | |
| Figure | 7 Digit, Black, 4.0 mm Height | | | | |
| Maximum Range | 99,99,999 | | | | |
| Operating Life | 10,000,000 counts minimum | | | | |
| Speed (Counts / Minute) | 600 (50ms-ON / 50ms-OFF) | | 1200 (25ms-ON / 25ms-OFF) | | 600 (50ms-ON / 50ms-OFF) |
| Pulse Width (minimum) | 50 ms | | 25 ms | | 50 ms |
| Connection | Lead wire with connector | | Terminal PIN (Pitch : 10 mm) | Terminal PIN (Pitch : 3.80 mm) | Lead Wire |
| | #39-01-4031 #39-00-0039 | # 03-09-2022 #02-09-2116 | | | |
| Panel Cutout | N.A | | | | 1.20'(30.48) x 0.96'(24.38) Panel thickness - 0.04'(1.0) to 0.08'(2.0) |
| Protection for Housing | Tamper Proof housing | N.A | | | |
| Weight (unpacked) | 142 g | | | | |
| Operating Temperature | -5° C to +40° C (Non-Freezing) | | | | |
| Humidity (Non Condensing) | 45 to 85% (Rh) | | | | |
| Display | 0.12'(3.0) x 0.06' (1.6) - White & black background | | | | |
| Continuous Energizing | Permissible | | | | |
| Counting Method | One pulse - One count (energizing - ½ count, unenergized - ½ count) | | | | |
| Reset | None | | | | |
| Shock test | Endurance: 300 m/s ² (30g) XYZ 5 times each direction, Total : 3, Mismovement : 50 m/s ² (5g) XYZ 4 times each direction, Total : 24. | | | | |
| Vibrations test | Endurance: 16.7 Hz, Width : 4mm ; XYZ each direction for 1 hour Mismovement : 10~55 Hz, Width : 0.5mm ; XYZ each direction for 10 mins | | | | |
| Type of Mounting | Behind the panel (Screw mount) | PCB mount (Straight) | PCB mou(Right angle) | Panel (Snap-in type) | |
| Degree of Protection | IP 30 | | | | |
| Construction | Cover : Plastic (Noryl UL94V-1), Black | | | | |
| Approvals |  | | | | |

VIEWS OF DIFFERENT BEZELS



Behind the panel (Screw mount)



Housing Behind Panel with
Out Seal Hole (Screw mount)



PCB mount (Straight)



PCB mount (Right angle)

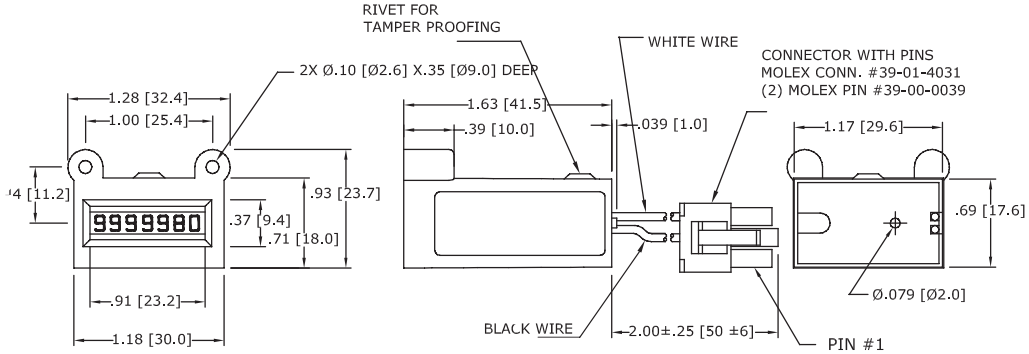


Panel (Snap-in type)

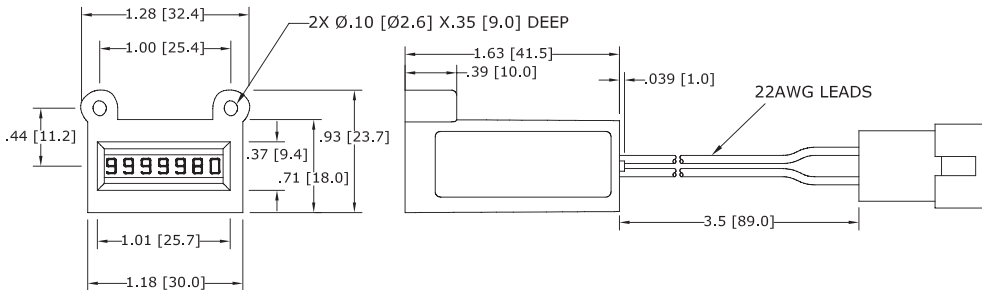
Impulse Counter Series CR 18

MOUNTING DIMENSION (mm)

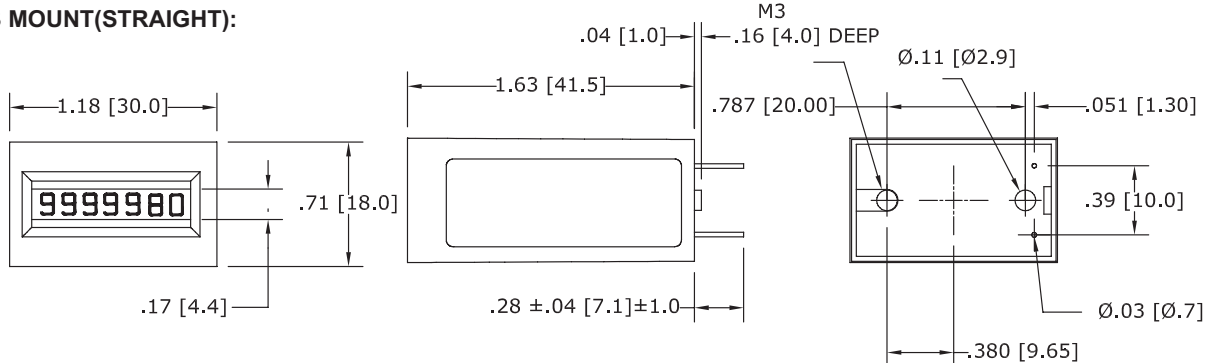
BEHIND THE PANEL (SCREW MOUNT):



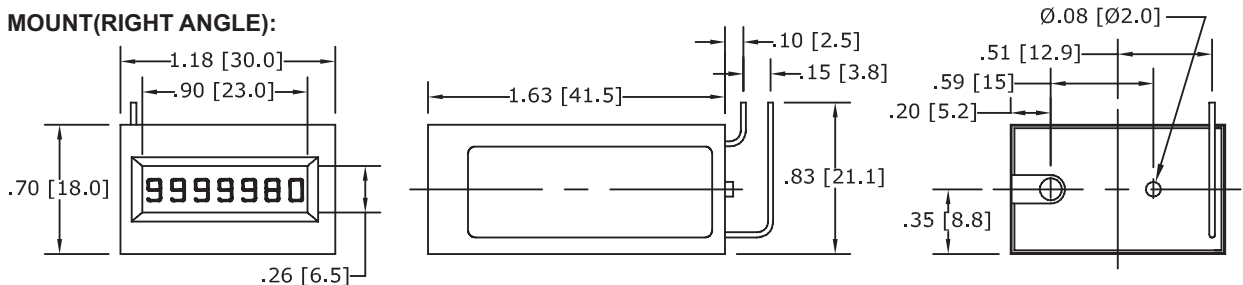
BEHIND THE PANEL (SCREW MOUNT):



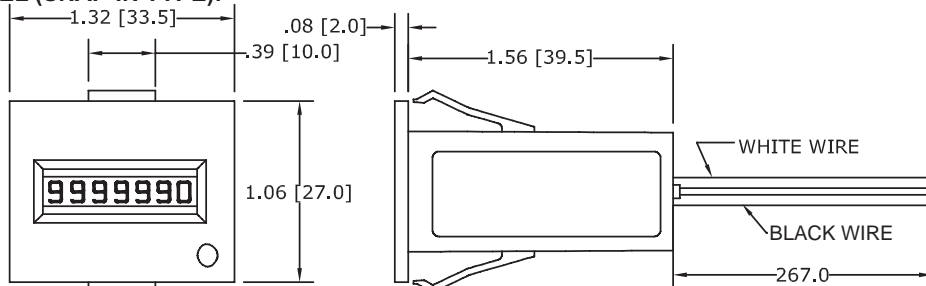
PCB MOUNT(STRAIGHT):



PCB MOUNT(RIGHT ANGLE):

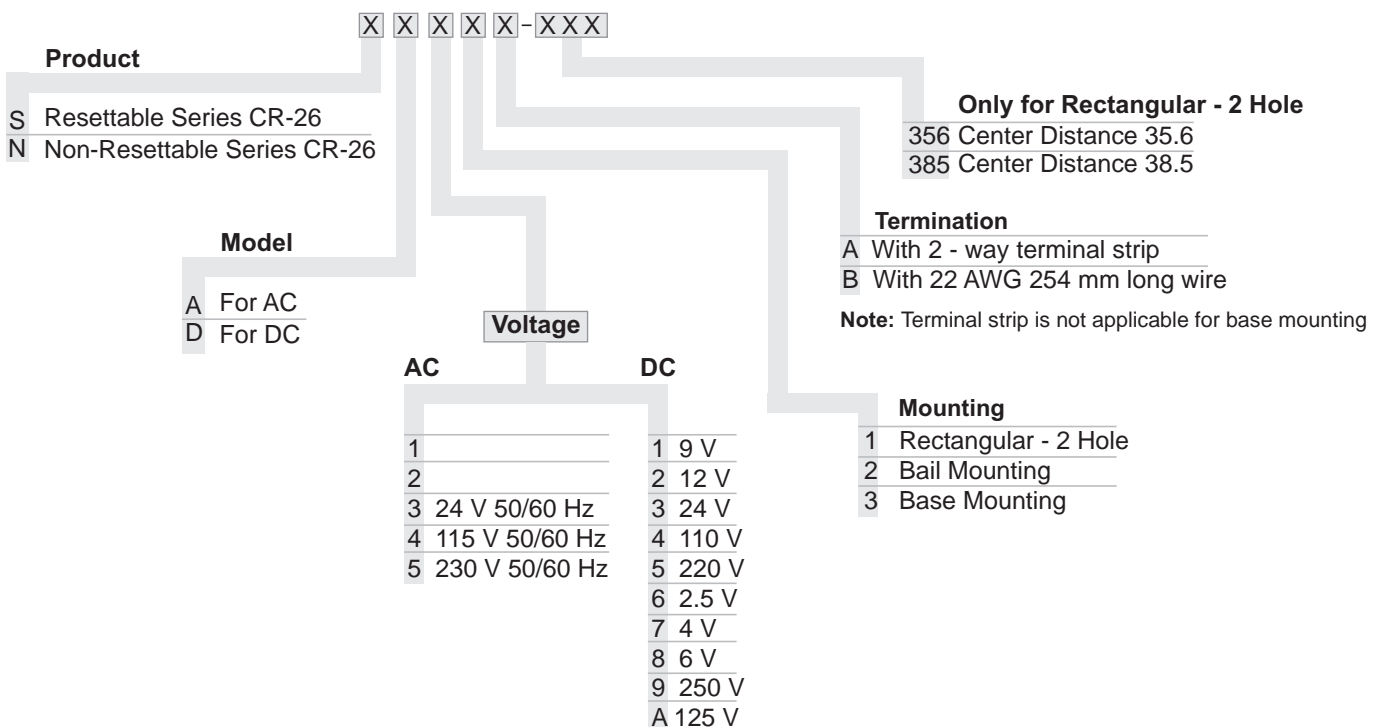


PANEL (SNAP-IN TYPE):



Impulse Counter Series CR 26


- 6-digit Compact and Robust Design
- Push-button quick reset
- High Accuracy and Reliability
- Requires no lubrication or maintenance
- Optional locking for reset button
- Ideal where space is limitation
- Three mounting options: Bail, Panel, Base



Note: Other voltages will be made available upon request.

Impulse Counter Series CR 26

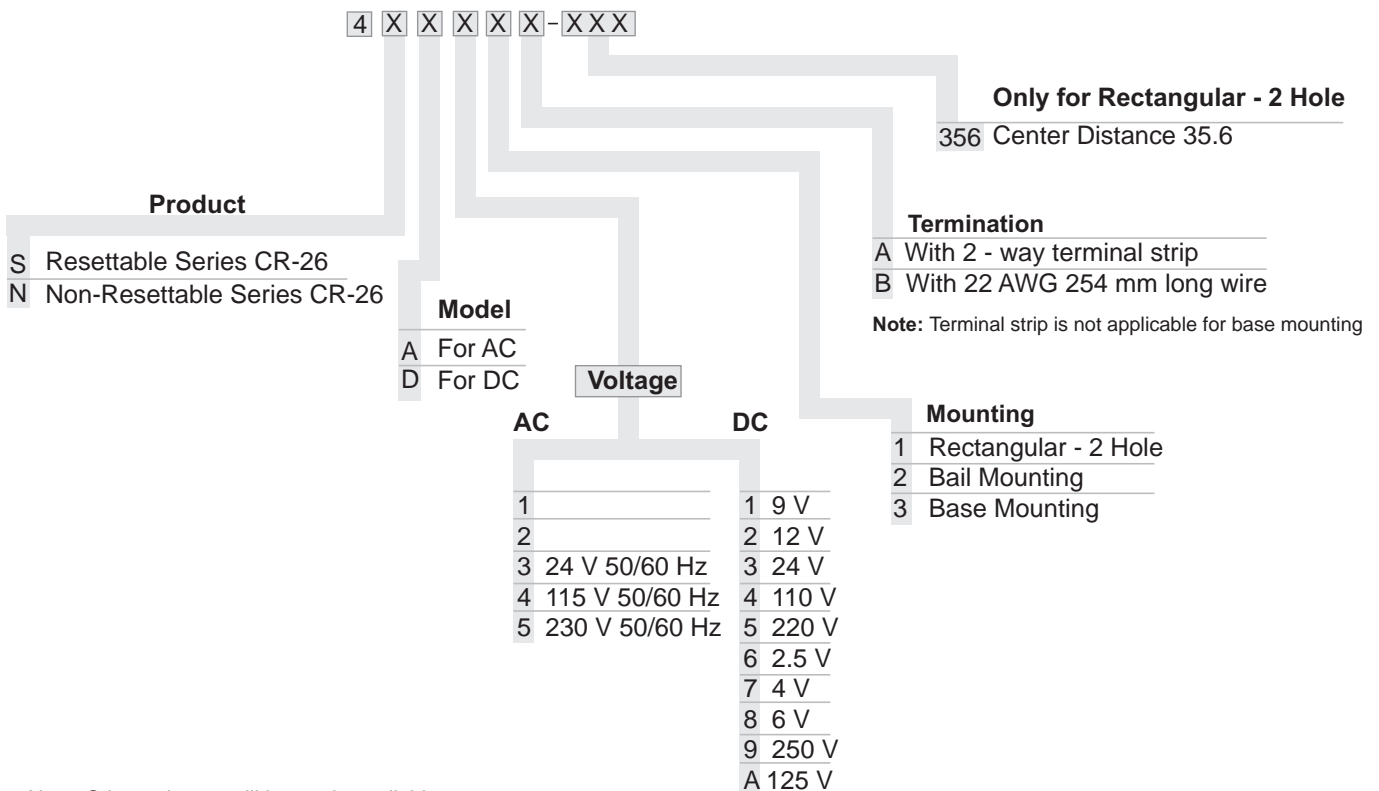


| Cat. No. | SD21A-385 | SD31A-385 | SA41A-356 | SA51A-356 |
|---------------------------|---|-----------|-----------|-----------|
| Parameters | | | | |
| Supply Voltage (ϕ) | 12 VDC | 24 VDC | 115 VAC | 230 VAC |
| Supply Variation | +10% to -15% (of ϕ) | | | |
| Power Consumption (Max.) | 2 W | | 3 W | |
| Figure | 6 Digit, White on Black, (4.0 mm) Height | | | |
| Maximum Range | 9,99,999 | | | |
| Operating Life | Beyond 100 million counts | | | |
| Speed | 10 Hz Maximum (600 Counts / Minute) | | | |
| Pulse Width | 50 ms minimum | | | |
| Counting Method | One Pulse - One count (energizing - 1/2 count, de-energized - 1/2 count) | | | |
| Continuous Energizing | Permissible | | | |
| Reset | Manual push button Reset (Reset button can be locked or sealed to avoid accidental reset) | | | |
| Weight (unpacked) | 142 g | | | |
| Operating Temperature | -5° C to +50° C (Non-Freezing) | | | |
| Humidity (Non Condensing) | 45 to 85% (Rh) | | | |
| Termination | 22 AWG, 105° C wire leads, 254 mm long / 2 way Terminal Strip | | | |
| Type of Mounting | Panel, Bail & Base | | | |
| Degree of Protection | IP 30 | | | |
| Certification |  | | | |
| Applications | Ideal for use in - Machine tools, Business Machines, Test Instruments, Amusement Instruments and Measuring devices | | | |

Note: Do not push reset button during change over.


Impulse Counter Series CR 26 (4-Digit)

- 4-digit Compact and Robust Design
- Push-button quick reset
- High Accuracy and Reliability
- Requires no lubrication or maintenance
- Optional locking for reset button
- Ideal where space is limitation
- Three mounting options: Bail, Panel, Base



Impulse Counter Series CR 26 (4-Digit)



| Cat. No. | 4SD21A-356 | 4SD31A-356 | 4SA41A-356 | 4SA51A-356 |
|---------------------------|---|------------|------------|------------|
| Parameters | | | | |
| Supply Voltage (ϕ) | 12 VDC | 24 VDC | 115 VAC | 230 VAC |
| Supply Variation | +10% to -15% (of ϕ) | | | |
| Power Consumption (Max.) | 2 W | | 3 W | |
| Figure | 4 Digit, White on Black, (4.0 mm) Height | | | |
| Maximum Range | 9999 | | | |
| Operating Life | Beyond 100 million counts | | | |
| Speed | 10 Hz Maximum (600 Counts / Minute) | | | |
| Pulse Width | 50 ms minimum | | | |
| Counting Method | One Pulse - One count (energizing - 1/2 count, de-energized - 1/2 count) | | | |
| Continuous Energizing | Permissible | | | |
| Reset | Manual push button Reset (Reset button can be locked or sealed to avoid accidental reset) | | | |
| Weight (unpacked) | 113 g | | | |
| Operating Temperature | -5° C to +50° C (Non-Freezing) | | | |
| Humidity (Non Condensing) | 45 to 85% (Rh) | | | |
| Termination | 22 AWG, 105° C wire leads, 254 mm long / 2 way Terminal Strip | | | |
| Type of Mounting | Panel, Bail & Base | | | |
| Degree of Protection | IP 30 | | | |
| Certification |  | | | |
| Applications | Ideal for use in - Machine tools, Business Machines, Test Instruments, Amusement Instruments and Measuring devices | | | |

Note: Do not push reset button during change over.

Impulse Counter Series CR 36

- Compact Size & Robust Design
- 7 Digit, Non-Resettable
- High Degree of Accuracy & Reliability
- Wide Temperature range
- Shock & Vibration Proof





Ordering Information

| Cat. No. | Description |
|----------|----------------------------------|
| QD11A | 12 VDC, Rectangular Bezel |
| QD21A | 24 VDC, Rectangular Bezel |
| QD12A | 12 VDC, Rectangular 2 Hole Bezel |
| QD22A | 24 VDC, Rectangular 2 Hole Bezel |
| QD23A | 24 VDC, Round Bezel |

Impulse Counter Series CR 36



| Cat. No. | QD11A | QD22A |
|---------------------------|---|--------|
| Parameters | | |
| Supply Voltage (ϕ) | 12 VDC | 24 VDC |
| Supply Variation | -15% to +10% | |
| Power Consumption (Max.) | 0.25 VA | |
| Figure | 7 Digit, White on Black, (3.6mm) High | |
| Maximum Range | 9999999 | |
| Speed | 10 Hz Maximum (600 counts/minute) | |
| Pulse Width | 50 ms. minimum | |
| Counting Method | One Pulse - One Count (energizing - ½ count, de-energizing - ½ count) | |
| Weight | 45 gm | |
| Operating Temperature | -5°C to +50°C | |
| Humidity (Non Condensing) | 45% to 85% (Rh) | |
| Mounting | Panel | |
| Degree of Protection | NEMA 4X (IP 65) | |
| Certification |   | |

Digital Counters

- 6-digit LCD
- In-built nonvolatile memory (EEPROM) offering exceptional reliability
- Wide range of supply voltage
- Remote reset
- Available in 3 different shaped Bezels
- Low Power Consumption





Ordering Information

| Cat. No. | Description |
|----------|---|
| Z72FBX | 85-265 VAC model |
| ZJ2FBX | 12-48V AC/DC model |
| ZH2FBX | 10-80V DC model |
| X | A=Round Bezel, B=24x48 Bezel, C=Screw Mount Bezel |

Digital Counters



| Cat. No. | Z72FBX | ZJ2FBX | ZH2FBX |
|---------------------------|---|----------------|-------------|
| Parameters | | | |
| Supply Voltage (⚡) | 85 - 265 VAC | 12 - 48 VAC/DC | 10 - 80 VDC |
| Frequency | 50/60 Hz | 50/60 Hz | N A |
| Power Consumption (Max.) | 0.8 VA | 0.4 W | 0.6 W |
| Counting frequency | 10Hz | 10Hz | 30Hz |
| Maximum Range | 999999 | | |
| Display | Large 6-Digit display, easy to read | | |
| Resolution | 1 Count | | |
| Reset | Electrical | | |
| Memory Retention | 100 Years | | |
| Operating Temperature | - 10° C to +50° C | | |
| Storage Temperature | - 20° C to +65° C | | |
| Accuracy | ± 1 Count | | |
| Humidity (Non Condensing) | 95% (Rh) | | |
| Degree of Protection | IP54 | | |
| Enclosure | UL94-V0 | | |
| Terminals | 1 & 2: Input Supply, 3: Count 4: Reset | | |
| Panel cut outs | Round Bezel, 24 x 48 Bezel, Screw Mount Bezel | | |
| Mounting | Flush/ Panel Mounting | | |
| Certification |   | | |
| Weight (unpacked) | With Round Bezel - 35g, with 24 x 48 Bezel - 29 g, with Screw Mount Bezel - 31 g | | |

EMI / EMC

| | |
|-----------------------------------|----------------|
| Harmonic Current Emissions | IEC 61000-3-2 |
| ESD | IEC 61000-4-2 |
| Radiated Susceptibility | IEC 61000-4-3 |
| Electrical Fast Transients | IEC 61000-4-4 |
| Surges | IEC 61000-4-5 |
| Conducted Susceptibility | IEC 61000-4-6 |
| Voltage Dips & Interruptions (AC) | IEC 61000-4-11 |
| Conducted Emission | CISPR 14-1 |
| Radiated Emission | CISPR 14-1 |

Environmental

| | |
|----------------------|----------------|
| Cold Heat | IEC 60068-2-1 |
| Dry Heat | IEC 60068-2-2 |
| Vibration | IEC 60068-2-6 |
| Repetitive Shock | IEC 60068-2-27 |
| Non-Repetitive Shock | IEC 60068-2-27 |

Impulse Counter Series CR 26

MOUNTING DIMENSION (mm)

IMPULSE COUNTER CR 26

Resettable Counter
SXXXX

| | A=With terminal strip | B=With 22 AWG 254 mm long wire | Panel cutout dimension |
|--|-----------------------|--------------------------------|--|
| 1. Panel Mount - 6 Figure SXXXX-385 | | | |
| 2. Panel Mount - 6 Figure SXXXX-356 | | | |
| 3. Bail Mount - 6 Figure | | | |
| 4. Base Mount - 6 Figure | | | |
| 5. Optional locking for reset button | | | To avoid the tampering with the reset button you can seal the counter as shown in the above figure |
| NON RESETTABLE COUNTER- NXXXXA | | | |
| <p>A = Counter with Terminal Strip(not applicable for Base Mounting)</p> <p>B = Counter with Wire (22 AWG 254 mm Long)</p> | | | |
| | | | |
| <p>Note: For Non Resettable Counters, reset arm lever will not be present and all other details will be common with resettable counter.</p> | | | |

Impulse Counter Series CR 26 (4-Digit)

MOUNTING DIMENSION (mm)

IMPULSE COUNTER CR 26 (4 FIG)

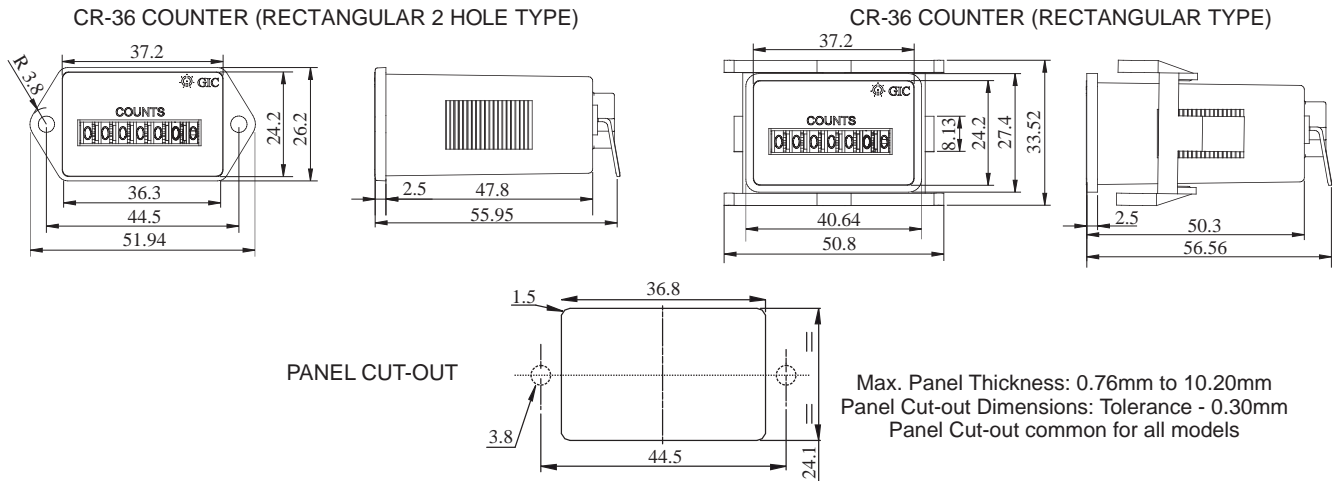
Resettable Counter
4XXXXA

| | A=With terminal strip | B=With 22 AWG 254 mm long wire | Panel cutout dimension |
|---|-----------------------|--------------------------------|--|
| 1. Panel Mount - 4 Figure 4XXXXX-356 | | | |
| 2. Bail Mount - 4 Figure 4XXXXX | | | |
| 3. Base Mount - 4 Figure 4XXXXX | | | |
| 4. Optional locking for reset button | | | To avoid the tampering with the reset button you can seal the counter as shown in the above figure |
| NON RESETTABLE COUNTER- NXXXXA | | | |
| A = Counter with Terminal Strip(not applicable for Base Mounting) B = Counter with Wire (22 AWG 254 mm Long) | | | |
| | | | |
| Note: For Non Resettable Counters, reset arm lever will not be present and all other details will be common with resettable counter. | | | |

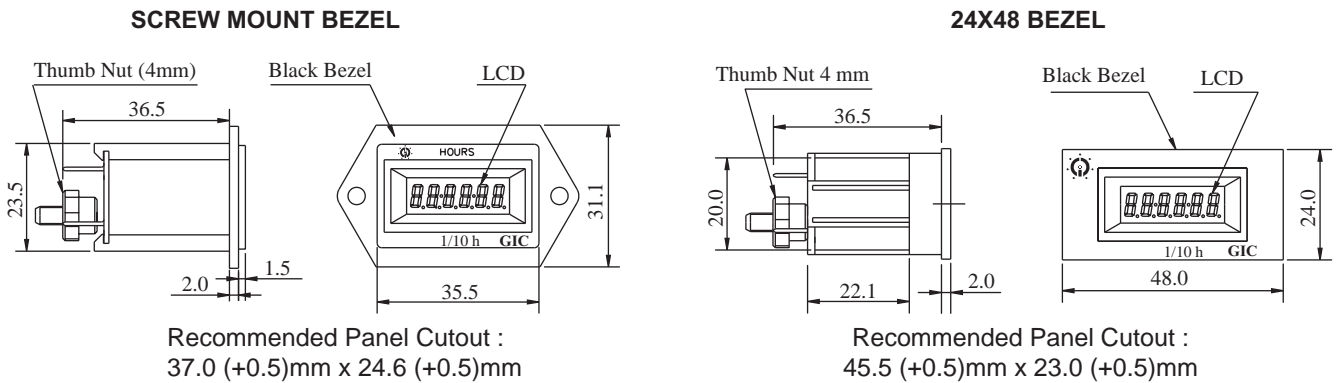
Impulse Counter Series CR 36 & Digital Counter

MOUNTING DIMENSIONS (mm)

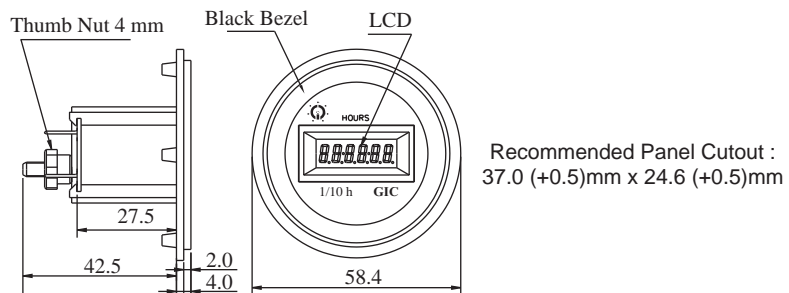
IMPULSE COUNTER CR 36



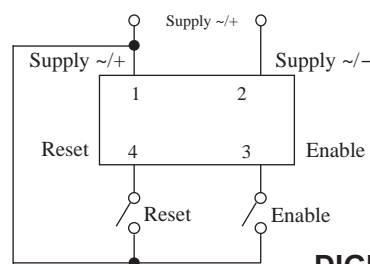
DIGITAL COUNTER



ROUND BEZEL



CONNECTION DIAGRAM



TERMINAL DESCRIPTION

- Pin 1: Supply (~ / +)
- Pin 2: Supply (~ / -)
- Pin 3: Enable
- Pin 4: Reset

DIGITAL COUNTER

Digital Hour Meter & Counter

- Suitable for Hour meter & Counter (Up / Down) application
- Wide Hour meter range from 1 sec to 9999999 hrs
- Wide counter range from 1 to 9999999 counts
- Prescaling facility for Counter
- Alarm facility for both Hour meter & Counter
- Relay & MOSFET Output with Over Load detection
- Retentive & Non-Retentive modes
- 7 Digit LCD with luxurious green backlight
- Compact size
- Suitable for panel mounting



Ordering Information

| Cat. No. | Description |
|---------------|-------------------------------------|
| Z2301N0G1FT00 | 9-30 V DC (with dual MOSFET output) |
| Z2221N0G2FT00 | 85-265 V AC/DC (with Relay output) |

Digital Hour Meter & Counter



| Cat. No. | | Z2301N0G1FT00 | Z2221N0G2FT00 |
|--------------------------------------|------------------------------|--|---|
| Parameters | | | |
| Supply Voltage (φ) | | 9 - 30 VDC | 85 - 265 VAC/DC |
| Power Consumption (W) | | 2 W max. | 2 VA / 1W |
| Supply Frequency | | 50 / 60 Hz | |
| I/P Signal Characteristics | | | |
| Signal Voltage Range | | 9 - 30 VDC | 85 - 265 VAC & 100 - 265 VDC |
| Signal Isolation | | 2kV | |
| Output Characteristics | | | |
| Output type | | 2 MOSFET: 30 VDC/60 mA (Max.) Note: Use isolated input supply | Relay: 1 C/O, Contact Rating: 5 A(Res.) @ 250 VAC/30 VDC Contact Material: Ag Alloy |
| Functional Characteristics | | | |
| Display | | 7 digit LCD , 6.5 mm Height, 12 O' Clock, Transmissive | |
| Number of keys | | 2 (SET key & RST key) | |
| Reset function | Reset type | Terminal | Front |
| | Time (min.) | 80 ms | 3 Sec |
| Hour Meter Functions | Accuracy | ± 2sec per Day | |
| | Ranges | Hrs : Min : Sec (999:59:59), Hrs : Min (99999:59), Hrs (9999999), Min (9999999), Sec (9999999) | |
| Counter Functions | Input Signal | For Hour counting detection, Signal has to be present for min. 3msec & signal has to be absent for min 20msec. | |
| | Accuracy | 100% | |
| | Range | 1 to 9999999.999 | |
| | Decimal Point Position(max.) | 3 | |
| | Pre-scaler | 4 Digit | |
| | Input | Switching Freq.(max.) | 10 Hz for AC and 40 Hz for DC |
| Signal | Pulse Width min. | 50ms ON/50ms OFF for AC, 12.5ms ON/12.5ms OFF for DC | |
| Environmental Characteristics | | | |
| Operating Temperature | | -5° C to +55° C | |
| Storage Temperature | | -10° C to +60° C | |
| Humidity | | 5 to 95% Rh (Without condensation) | |
| Maximum Operating Altitude | | 2000 m | |
| Pollution Degree | | II | |
| Degree of Protection | | Front side: IP40; Terminals: IP20, Housing : IP30 | |
| Enclosure material | | UL 94 V0 Plastic | |
| Casing color | | Black | |
| Other Characteristics | | | |
| Mounting | | Flush mounting on panel cut-out | |
| Panel Cut-out | | 22mm X 44.8mm | |
| Weight (Un-packed) | | 52 gm | |
| Operating position | | Horizontal | |
| Termination wire Sizes | | Wire size : 22-14 AWG, 0.3-2.5 mm | |

EMI / EMC

| | |
|-------------------------------------|----------------|
| Harmonic Current Emissions | IEC 61000-3-2 |
| Voltage Flicker & Fluctuation | IEC 61000-3-3 |
| ESD | IEC 61000-4-2 |
| Radiated Susceptibility | IEC 61000-4-3 |
| Electrical Fast Transients (Supply) | IEC 61000-4-4 |
| Electrical Fast Transients (Signal) | IEC 61000-4-4 |
| Surge | IEC 61000-4-5 |
| Conducted Susceptibility | IEC 61000-4-6 |
| Power Frequency Magnetic Field | IEC 61000-4-8 |
| Voltage Dips | IEC 61000-4-29 |
| Conducted Emission | CISPR 11 |
| Radiated Emission | CISPR 11 |

Safety Compliance:

| | |
|--|---------------|
| Test Voltage (All terminal to housing) | IEC 60947-5-1 |
| Single fault | IEC 61010-1 |
| Leakage Current | UL 508 |

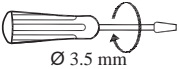

Environmental

| | |
|----------------------|----------------|
| Cold Heat | IEC 60068-2-1 |
| Dry Heat | IEC 60068-2-2 |
| Vibration | IEC 60068-2-6 |
| Repetitive Shock | IEC 60068-2-27 |
| Non-Repetitive Shock | IEC 60068-2-27 |

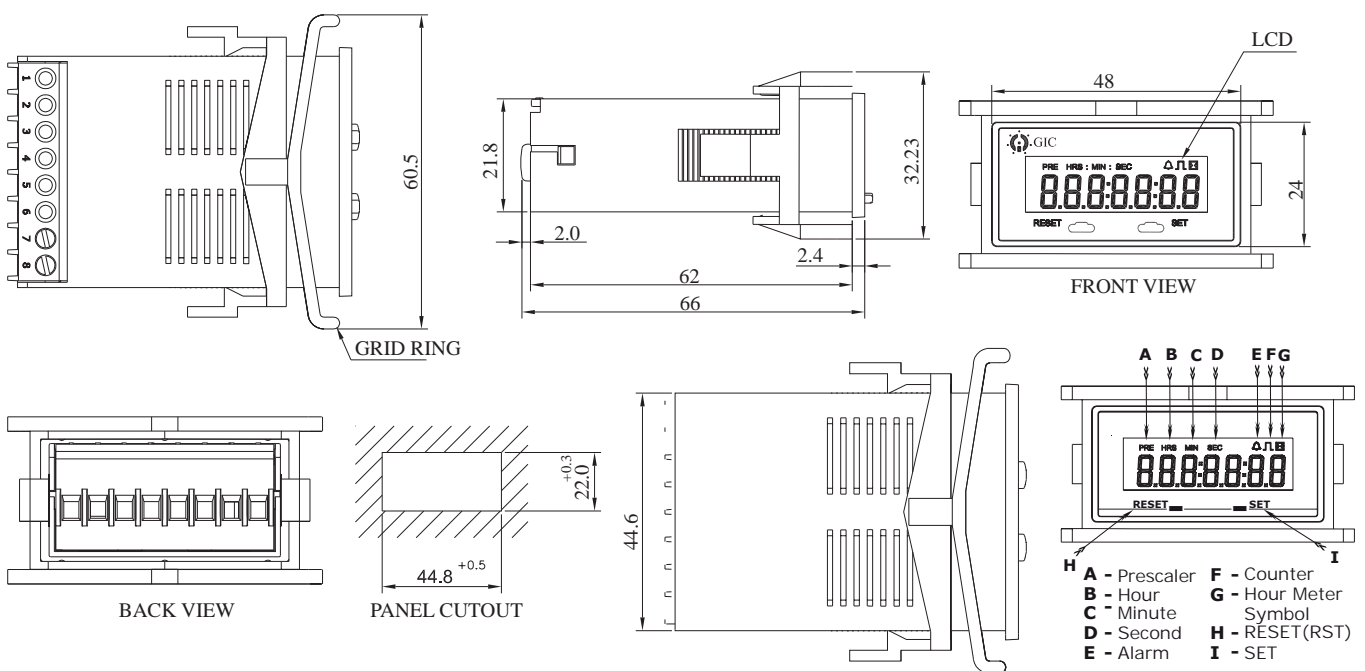
Digital Hour Meter & Counter



TERMINAL TORQUE & CAPACITY

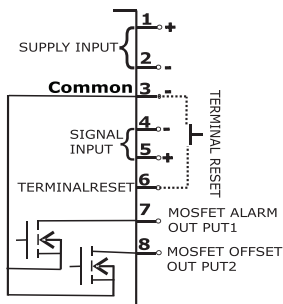
| | |
|---|--|
|  Ø 3.5 mm | Torque - 0.40 N.m (3.5 Lb.in) Terminal screw - M2.5 |
|  | Solid Wire - 1 X 0.3...2.5 mm ² |
| AWG | 22 to 14 |

MOUNTING DIMENSIONS (mm)

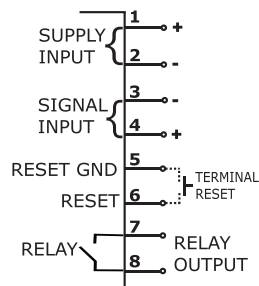


CONNECTION DIAGRAM

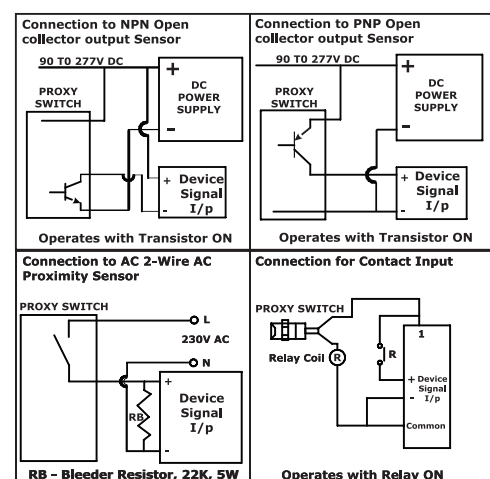
For Z2301N0G1FT00



For Z2221N0G2FT00



Proximity Switch Connection Diagram:



Rate Indicator & Totaliser

- Wide input signal sensing range 0.01Hz to 20KHz.
- Wide Totalizer range from 1 to 9999999.
- Wide Rate range from 1 to 999999.
- Prescaling facility for Rate Indicator.
- Alarm facility for both Rate Indicator & Totalizer.
- Password enabled.
- Signal Over-range displayed.



Ordering Information

| Cat. No. | Description |
|---------------|------------------------------------|
| Z3301N0G2FT00 | 9 VDC - 30 VDC (with Relay output) |

Rate Indicator & Totaliser



| Cat. No. | | Z3301N0G2FT00 | | |
|-------------------------------|-------------|--|-------|------------|
| Parameters | | | | |
| Supply Voltage (±) | | 9 VDC to 30 VDC | | |
| Max. Power Consumption (W) | | 0.73 W | | |
| Input Signal | | Range 1 : 0.1 Hz to 40 Hz | | |
| Frequency Range | | Range 2 : 0.1 Hz to 20 KHz | | |
| Output Type | | Relay: 1 C/O, Contact Rating:5 A(Res.) @250 VAC / 30VDC Contact Material: Ag Alloy | | |
| Display | | 7 digit LCD, 6.5mm Height, 12 O' Clock, Transmissive | | |
| Rate Display | | 6 digit Display | | |
| Number of keys | | 2 (SET & RST) | | |
| Reset | Reset type | Terminal | Front | Auto Reset |
| Function | Time (min.) | 80 ms | 3 Sec | - |
| Rate Accuracy | | ± 0.01% | | |
| Totalizer Accuracy | | 100 % | | |
| Decimal Point Position (max.) | | 4 | | |
| Pre-scaler | | 4 digits before decimal point & 3 digits after decimal point. | | |
| Operating Temperature | | - 10° C to +55° C | | |
| Storage Temperature | | - 10° C to +60° C | | |
| Humidity | | 5 to 95% Rh (Without condensation) | | |
| Maximum Operating Altitude | | 2000 m | | |
| Pollution Degree | | II | | |
| Degree of Protection | | Front side : IP40; Terminals: IP20, Housing: IP30 | | |
| Enclosure material | | UL 94 V0 Plastic | | |
| Casing color | | Black | | |
| Weight (Unpacked) | | 52g | | |
| Operating Position | | Horizontal | | |
| Termination wire Sizes | | Wire size : 22-14 AWG, 0.3-2.5 mm | | |
| Panel Cut-out | | 22mm X 44.8mm | | |
| Mounting | | Flush / Panel Mounting | | |
| Certification | | | | |

EMI / EMC

| | |
|-------------------------------------|----------------|
| ESD | IEC 61000-4-2 |
| Radiated Susceptibility | IEC 61000-4-3 |
| Electrical Fast Transients (Supply) | IEC 61000-4-4 |
| Electrical Fast Transients (Signal) | IEC 61000-4-4 |
| Surge | IEC 61000-4-5 |
| Conducted Susceptibility | IEC 61000-4-6 |
| Power Frequency Magnetic Field | IEC 61000-4-8 |
| Voltage Dips | IEC 61000-4-29 |
| Conducted Emission | CISPR 11 |
| Radiated Emission | CISPR 11 |

Safety Compliance:

| | |
|---------------------------------------|---------------|
| Test Voltage (All Terminal & Housing) | IEC 60947-5-1 |
| Signal Fault | IEC 61010-1 |
| Leakage Current | UL 508 |

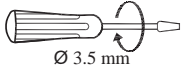

Environmental

| | |
|----------------------|----------------|
| Cold Heat | IEC 60068-2-1 |
| Dry Heat | IEC 60068-2-2 |
| Vibration | IEC 60068-2-6 |
| Repetitive Shock | IEC 60068-2-27 |
| Non-Repetitive Shock | IEC 60068-2-27 |

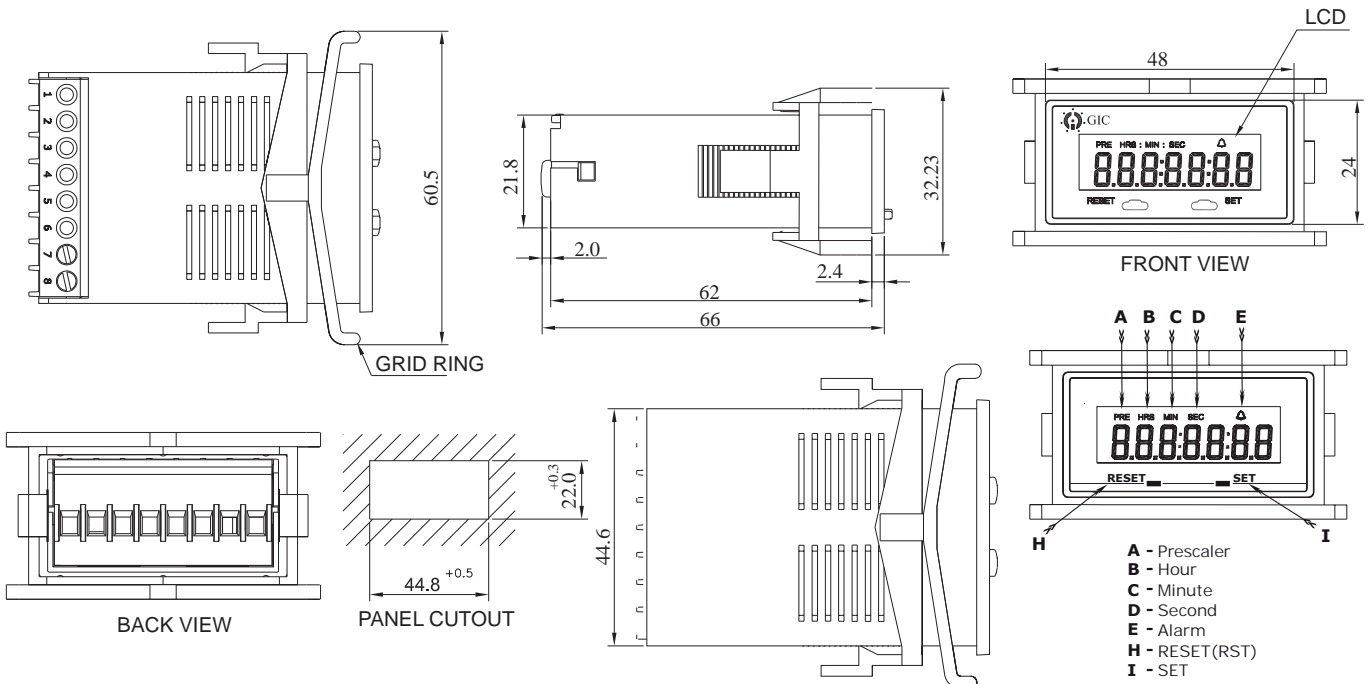
Rate Indicator & Totaliser



TERMINAL TORQUE & CAPACITY

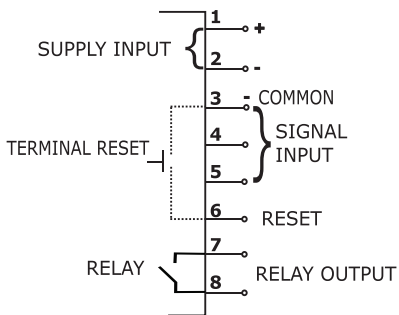
| | |
|---|--|
|  Ø 3.5 mm | Torque - 0.40 N.m (3.5 Lb.in) Terminal screw - M2.5 |
|  | Solid Wire - 1 X 0.3...2.5 mm ² |
| AWG | 22 to 14 |

MOUNTING DIMENSIONS (mm)

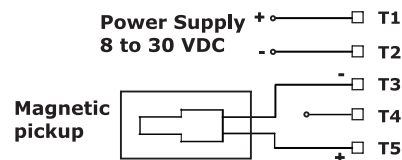


CONNECTION DIAGRAM

Z3301N0G2FT00



Magnetic pickup:



Proximity Switch Connection Diagram:

