

CURRENT MEASUREMENT PROBES

SR SERIES CURRENT PROBES

SR600 SERIES

Current probes well-suited for power applications where high accuracy and low phase shift is important

SPECIFICATIONS

| MODELS | SR600 | SR601 | SR604 | SR634 | SR651 | SR661 |
|-----------------------------|---|-----------------------|--|-------|---|---|
| ELECTRICAL | | | | | | |
| Nominal Range | 1000A _{AC} | | 250, 500, 1000A _{AC} | | 1000A _{AC} | 10, 100, 1000A _{AC} |
| Measurement Range | 0.1 to 1200A _{AC} | | | | | |
| Transformation Ratio | 1000: 1 | | 250:5, 500:5, 1000:5 | | Voltage Output | Voltage output |
| Output Signal | 1mA/A (1A _{AC} @ 1000A) | | 20mA; 10mA; 5mA/A (5A _{AC} @ 250; 500; 1000A) | | 1mV/A (1V _{AC} @ 1000A) | 100mV; 10mV; 1mV/A (1V _{AC} @ 10, 100; 1000A) |
| Phase Shift | 10A: 3° 50A: 1.5° 200A: 0.75° 1000A: 0.5° 1200A: 0.5° | | (250A Range) 12.5A: 10°; 50A: 10°; 250A: 10°; 300A: 10° (500A Range) 10A: 6°; 25A: 4°; 100A: 3°; 500A: 2.5°; 600A: 2.5° (1000A Range) 20A: 5°; 50A: 3°; 200A: 1.5°; 1000A: 1°; 1200A: 1° | | 10A: 3° 50A: 1.5° 200A: 0.75° 1000A: 0.5° 1200A: 0.5° | (10A Range) 10A: ≤15° (100A Range) 20A: ≤15° 100A: ≤10° 120A: ≤5° (1000A Range) 200A: ≤3° 1000A: ≤2° 1200A: ≤1 |
| Overload | 1200A for 40 min ON, 20 min OFF | | 1200A for 30 min ON, 15 min OFF | | 1200A for 40 min ON, 20 min OFF | |
| Frequency Range | 30Hz to 5kHz* | | | | 10Hz to 100kHz* | |
| Load Impedance | 5Ω max | | 0.4Ω max | | 100kΩ min | 1MΩ min |
| Working/Common Mode Voltage | 600V CAT III | | | | | |
| Output Surge Protection | No | 30V peak | | | | N/A |
| Output Termination | Two 4mm safety banana jacks | Lead with plugs | Two 4mm safety banana jacks | | | 6.5 ft (2m) coaxial cable with BNC terminal |
| MECHANICAL | | | | | | |
| Jaw Opening | 2.25" (57mm) max | | | | | |
| Maximum Conductor Size | 2.05" (52mm) | | | | | |
| Maximum Bus Bar Size | One 1.95 x 0.19" (50 x 5mm) | | | | | |
| Dimensions | 4.37 x 8.50 x 1.77" (111 x 216 x 45mm) | | | | | |
| Weight | 1.21 lbs (550g) | | | | | |
| Material | Polycarbonate UL 94 | | | | | |
| ENVIRONMENTAL | | | | | | |
| Operating Temperature | 14° to 122°F (-10° to 50°C) | | | | | |
| Storage Temperature | -4° to 158°F (-20° to 70°C) | | | | | |
| Operating Relative Humidity | 0 to 85% decreasing linearly above 95°F (35°C) | | | | | |
| SAFETY | | | | | | |
| Electrical | EN 61010-2-32, 600 V CAT III | | | | | |
| UL Approval | Yes - Canada and United States | | | | | |
| Double Insulation | Yes | | | | | |
| CE Mark | Yes | | | | | |



SR601

FEATURES

- Measurement range of 100mA to 1200A_{AC}
- Large jaw opening accommodates up to two 500kcmil conductors
- Ergonomic design and easy operation
- Low phase shift for power measurements
- Available with mA or mV output signals
- Designed for DMMs, recorders, loggers, oscilloscopes, power and harmonic meters
- UL approved

ACCESSORIES

Catalog #1017.45

4mm Banana plug adaptor (Safety Leads to non-recessed plug)

Catalog #2118.46

Banana (Female) BNC (Male) Adaptor

*Current derating above 1kHz using the formula: 1000A x 1/F (in kHz)
Consult factory for NIST Calibration prices

| CATALOG NO. | DESCRIPTION |
|-------------|--|
| 2113.42 | AC Current Probe Model SR600 (1000A, 1mA/A, Jack) |
| 2113.43 | AC Current Probe Model SR601 (1000A, 1mA/A, Lead) L** |
| 2113.44 | AC Current Probe Model SR604 (1000A, 1mA/A, Lead) L** |
| 2113.48 | AC Current Probe Model SR634 (250A, 20mA/A; 500A, 10mA/A & 1000A, 5mA/A, Jack) L** |
| 2113.45 | AC Current Probe Model SR651 (1000A, 1mV/A, Jack) |
| 2113.49 | AC Current Probe Model SR661 (10A, 100mV/A; 100A, 10mV/A & 1000A, 1mV/A, BNC) |



CURRENT MEASUREMENT PROBES

GENERAL PURPOSE PROBES SELECTION CHART

| Series | Model | Ratio | Measurement Range | | Output Signal | | Phase Shift** | Maximum Conductor Size | | Output Connection | Catalog No. |
|---|-------|--------|-----------------------------|---------------------------|---------------|----------------------------|---------------|-------------------------------|-------------------------|-------------------|-------------|
| | | | AC | DC | Current | Voltage | | Ø Cable | Bus Bar | | |
|  | MN01 | 1000:1 | 2 to 150A | – | 1mA/A* | – | N/A | 0.39" (10mm) | N/A | Leads | 2129.17 |
| | MN02 | 1000:1 | 50mA to 100A 50mA to 90A | – | | – | N/A | 0.39" (10mm) | N/A | Leads | 2129.20 |
| | MN03 | – | 2 to 100A | – | – | 1mV/A | N/A | 0.39" (10mm) | N/A | Leads | 2129.18 |
| | MN05 | – | 5mA to 10A 1 to 100A | – | – | 1mV/A 1mV/A | N/A | 0.39" (10mm) | N/A | Leads | 2129.19 |
| | MN09 | – | 1 to 150A | – | – | 100mVdc/Aac | N/A | 0.39" (10mm) | N/A | Leads | 2129.21 |
|  | MN103 | – | 1mA to 10A 1 to 100A | – | – | 1mV/A 1mV/A | N/A | 0.47" (12mm) | N/A | Leads | 1031.02 |
| | MN114 | – | 1mA to 10A | – | – | 100mV/A | <8° | 0.47" (12mm) | N/A | Leads | 2110.71 |
| | MN185 | 1000:1 | 50mA to 120A | – | 1mA/A | – | <3.5° | 0.47" (12mm) | N/A | Jacks | 100.185 |
|  | MN255 | – | 0.1 to 24A 0.1 to 240A | – | – | 100mV/A 10mV/A | <2.5° | 0.78" (19.8mm) | N/A | Leads | 2115.81 |
| | MN291 | – | 0.5 to 240A | – | – | 100mVdc/Aac | N/A | 0.78" (19.8mm) | N/A | Leads | 2115.84 |
| | MN307 | – | 10mA to 12A | – | – | 100mV/A | <2.5° | 0.78" (19.8mm) | N/A | Leads | 2116.23 |
| | MN312 | 1000:1 | 0.1 to 200A | – | 1mA/A* | – | <2.5° | 0.78" (19.8mm) | N/A | Jacks | 2116.24 |
| | MN352 | – | 0.1 to 150A | – | – | 10mV/A | <2.5° | 0.78" (19.8mm) | N/A | Jacks | 2116.26 |
| | MN353 | – | | – | – | 10mV/A | <2.5° | 0.78" (19.8mm) | N/A | Leads | 2116.27 |
| | MN375 | – | 0.1 to 10A | – | – | 100mV/A | <1.5° | 0.78" (19.8mm) | N/A | Leads | 2115.41 |
| | MN379 | – | 5mA to 6A 0.1 to 120A | – | – | 200mV/A 10mV/A | | 0.78" (19.8mm) | N/A | Leads | 2153.01 |
|  | SL206 | – | 10mA to 1.5A 50mA to 60A | 10mA to 2A 50mA to 80A | – | 1mV/mAac/dc 10mV/Aac/dc | <1° | 0.46" (11.8mm) | N/A | Leads | 1201.45 |
|  | MD301 | 1000:1 | 2 to 500A | – | – | 1mVdc/Aac | N/A | 1.18" (30mm) 2 x 500kc-mil | 2.48 x 0.20" (63 x 5mm) | Leads | 1201.07 |

*Output Protection for open secondary

**Phase shift indicated at maximum rating

Note: Models MN103, MN106, MN114 & MN185 are not CE compliant. MN200 & MN300 series are UL approved except MN379.

Consult factory for NIST Calibration price.

CURRENT MEASUREMENT PROBES

GENERAL PURPOSE PROBES SELECTION CHART

| SERIES | MODEL | RATIO | MEASUREMENT RANGE | | OUTPUT SIGNAL | | PHASE SHIFT** | MAXIMUM CONDUCTOR SIZE | | OUTPUT CONNECTION | CATALOG NO. |
|---|-------|--------|---|-----------------------------|---------------|--|----------------|------------------------|---|-------------------|-------------|
| | | | AC | DC | CURRENT | VOLTAGE | | Ø CABLE | BUS BAR | | |
|  | MR415 | – | 0.5 to 400A | 0.5 to 600A | – | 1mV/A | ≤1.5° | 1.18" (30mm) | 2 bus bar 1.24 x 0.39" (31.5 x 10mm) | 5 ft (1.5m) Lead | 1200.80 |
| | MR416 | – | 0.5 to 40A 0.5 to 400A | 0.5 to 60A 0.5 to 600A | – | 10mV/A 1mV/A | ≤2.2° ≤1.5° | 1.53" (39mm) | 2 bus bar 1.95 x 0.19" (50 x 5mm) | 5 ft (1.5m) Lead | 1200.81 |
| | MR526 | – | 0.5 to 100A 0.5 to 1000A | 0.5 to 150A 0.5 to 1400A | – | 10mV/A 1mV/A | ≤2° ≤1.5° | 1.53" (39mm) | 2 bus bar 1.95 x 0.19" (50 x 5mm) | 5 ft (1.5m) Lead | 1200.83 |
|  | SR601 | 1000:1 | 0.1 to 1200A | – | 1mA/A* | – | <0.5° | 2.05" (52mm) | 1.95 x 0.19" (50 x 5mm) | Jacks | 2113.43 |
| | SR604 | 1000:1 | 0.1 to 1200A | – | 1mA/A* | – | <0.5° | 2.05" (52mm) | 1.95 x 0.19" (50 x 5mm) | Leads | 2113.44 |
| | SR651 | – | 0.1 to 1200A | – | – | 1mV/A | <0.5° | 2.05" (52mm) | 1.95 x 0.19" (50 x 5mm) | Jacks | 2113.45 |
| | SR701 | 1000:1 | 1mA to 1000A | – | 1mA/A* | – | <0.7° | 2.05" (52mm) | 1.95 x 0.19" (50 x 5mm) | Jacks | 2116.29 |
| | SR704 | 1000:1 | 1mA to 1000A | – | 1mA/A* | – | <0.7° | 2.05" (52mm) | 1.95 x 0.19" (50 x 5mm) | Leads | 2116.30 |
| | SR752 | – | 0.1 to 1000A | – | – | 1mV/A | <0.7° | 2.05" (52mm) | 1.95 x 0.19" (50 x 5mm) | Leads | 2116.32 |
| | SR759 | – | 1mA to 1A 10mA to 10A 0.1 to 100A 1 to 1000A | – | – | 1000mV/A 100mV/A 10mV/A 1mV/A | <1° | 2.05" (52mm) | 1.95 x 0.19" (50 x 5mm) | Leads | 2116.33 |
|  | K100 | – | 0.1mA to 3A | 0.05mA to ±4A | – | 1mV/mA | N/A | 0.18" (4.5 mm) | N/A | Plugs | 1200.67 |
| | K110 | – | 0.1mA to 300mA | 0.05mA to ±450mA | – | 10mV/mA | N/A | | N/A | Plugs | 2111.73 |
|  | LM102 | 1000:1 | 50mA to 200A | – | 1mA/A* | – | <3° | 0.63" (16 mm) | N/A | Leads | 2153.04 |
| | LM103 | – | 0.1 to 200A | – | – | 1mV/A | <3° | | N/A | Leads | 2153.05 |

*Output Protection for open secondary

**Phase shift indicated at maximum rating

Note: All SR probes listed on this chart are UL approved, however not all SR series probes are UL approved; please consult factory. Consult factory for NIST Calibration price.



OUTPUT TERMINATIONS

Lead with BNC

Insulated 6.5 ft (2m) coaxial cable with insulated BNC connector rated 600Vrms



Jacks

Two standard safety banana jacks (4mm)



Leads

Double/reinforced 5 ft (1.5m) leads with 4mm safety banana plug



Shrouded Banana Plugs

Two 4mm safety banana plugs; standard ¾" (19mm) spacing




AMPFLEX® AND MINIFLEX® PROBES - SELECTION CHARTS

| SERIES | MODEL | RATIO | MEASUREMENT RANGE | OUTPUT SIGNAL | MAXIMUM CONDUCTOR SIZE | CATALOG NO. |
|---|-------------------|-------|----------------------------|----------------------------------|------------------------|-------------|
|  | MF 300-10-2-10-HF | - | 30A / 300A | 100mV/A, 10mV/A | 2.95" (70mm) | 2126.84 |
|  | MA114 | - | 3A / 30A / 300A / 3000A | 1mV/mA, 100mV/A 10mV/A, 1mV/A | 4" (101mm) | 2153.41 |
|  | 300-24-2-10 | - | 30A / 300A | 100mV/A, 10mV/A | 7.48" (190mm) | 2112.88 |
| | 1000-24-1-1 | - | 1000A | 1mV/A | 7.48" (190mm) | 2112.39 |
| | 1000-24-2-1 | - | 100A / 1000A | 10mV/A, 1mV/A | 7.48" (190mm) | 2112.98 |
| | 1000-36-2-1 | - | 100A / 1000A | 10mV/A, 1mV/A | 11" (290mm) | 2113.00 |
| | 3000-24-1-1 | - | 3000A | 1mV/A | 7.48" (190mm) | 2112.46 |
| | 3000-36-1-1 | - | | | 11" (290mm) | 2112.48 |
| | 3000-24-2-1 | - | 300A / 3000A | 10mV/A, 1mV/A | 7.48" (190mm) | 2113.05 |
| | 6000-36-2-0.1 | - | 600A / 6000A | 1mV/A, 0.1mV/A | 11" (290mm) | 2113.21 |
| | 30000-24-2-0.1 | - | 3000A / 30,000A | | 7.48" (190mm) | 2113.33 |
|  | 24-3001 | - | 300A / 3000A _{Ac} | 10mV/A, 1mV/A | 7.48" (190mm) | 2120.81 |

Consult factory for NIST Calibration price

OSCILLOSCOPE & BNC TERMINATED PROBES

| MODEL | MEASUREMENT RANGE | | OUTPUT SIGNAL VOLTAGE | PHASE SHIFT* | MAXIMUM CONDUCTOR SIZE | | OUTPUT CONNECTION |
|---|--|-----------------------------|----------------------------|-----------------------------|------------------------|--|------------------------------|
| | AC | DC | | | Ø CABLE | BUS BAR | |
|  SL261 | 100mA to 10A 1 to 100A | | 100mV/A 10mV/A | <1.5° | 0.46" (11.8mm) | N/A | 6.5 ft (2m) Lead w/BNC |
|  MN261 | 0.1 to 24A 0.5 to 240A | | | <2.5° | 0.78" (19.8mm) | | |
|  SR661 | 0.1 to 12A 0.1 to 120A 1 to 1200A | - | 100mV/A 10mV/A 1mV/A | <1° | 2.05" (52mm) | 1.96 x 0.19" (50 x 5mm) | |
|  MN251T MN379T | 0.5 to 240A | | 1mV/A | <2.5° | 0.78" (20mm) | 0.78" (20mm) | 10 ft (3m) Lead w/BNC |
| | 0.005 to 6A | | 200mV/A | <4° | | | |
| | 0.1 to 120A | | 10mV/A | <2.2° | | | |
|  MH60 | 0.5 to 100A | 0.5 to 100A | 10mV/A | <1° | 1.02" (26mm) | N/A | |
|  MR417 | 0.5 to 40A 0.5 to 400A | 0.5 to 60A 0.5 to 600A | 10mV/A 1mV/A | ≤2.2° ≤1.5° | 1.18" (30mm) | 2 bus bar 1.24 x 0.39" (31.5 x 10mm) | 6.6 ft (2m) Lead w/BNC |
| |  MR527 | 0.5 to 100A 0.5 to 1000A | | 0.5 to 150A 0.5 to 1400A | | | |

*Phase shift indicated at maximum rating. Note: All probes are rated 600V CAT III and CE compliant. Not all models are UL approved; please consult factory. Consult factory for NIST Calibration price.