

# CURRENT MEASUREMENT PROBES

## SR SERIES CURRENT PROBES



### SR700 SERIES

*Excellent linearity and low phase shift, plus a broad frequency response, permit accurate measurements of current for power and power quality measurements*



SR701



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### FEATURES

- Measurement range of 1 mA to 1200 A<sub>AC</sub>
- Large jaw opening accommodates conductors up to two 500 MCM conductors
- Ergonomic design and easy operation
- Low phase shift for power measurements
- Available with mA output signals
- Designed for DMMs, recorders, loggers, oscilloscopes, power and harmonic meters
- UL approved

### ACCESSORIES

#### CAT. #1017.45

4 mm banana plug adapter  
(Safety Leads to non-recessed plug)

#### CAT. #2118.46

Banana (Female)  
BNC (Male) Adapter

| MODELS                        | SR701                                                                                   | SR704                                           | SR752                                                                                                                                                                                                                           | SR759 |
|-------------------------------|-----------------------------------------------------------------------------------------|-------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| ELECTRICAL                    |                                                                                         |                                                 |                                                                                                                                                                                                                                 |       |
| Nominal Range                 | 1000 A <sub>AC</sub>                                                                    |                                                 | (1, 10, 100, 1000) A <sub>AC</sub>                                                                                                                                                                                              |       |
| Measurement Range             | 1 mA to 1200 A <sub>AC</sub>                                                            | 100 mA to 1200 A <sub>AC</sub>                  | 1 mA to 1200 A <sub>AC</sub>                                                                                                                                                                                                    |       |
| Transformation Ratio          | 1000: 1                                                                                 | Voltage output                                  |                                                                                                                                                                                                                                 |       |
| Output Signal                 | 1 mA/A<br>(1 A <sub>AC</sub> @ 1000 A)                                                  | 1 mV/A<br>(1 V <sub>AC</sub> @ 1000 A)          | (1000, 100, 10, 1) mV/A,<br>(1 V <sub>AC</sub> @ 1, 10, 100 or 1000 A)                                                                                                                                                          |       |
| Phase Shift                   | (1 to 10) A: ≤ 2 °<br>(10 to 100) A: ≤ 1 °<br>(100 to 1200) A: ≤ 0.7 °                  |                                                 | (1 A Range)<br>(0.1 to 1.2) A: ≤ 10 °<br>(10 A Range)<br>(0.1 to 1) A: ≤ 5 °; (1 to 12) A: ≤ 2 °<br>(100 A Range)<br>(1 to 10) A: ≤ 2 °; (10 to 120) A: ≤ 1 °<br>(1000 A Range)<br>(10 to 100) A: ≤ 2 °; (100 to 1200) A: ≤ 1 ° |       |
| Overload                      | 1200 A for 15 min ON, 30 min OFF                                                        |                                                 |                                                                                                                                                                                                                                 |       |
| Frequency Range               | 30 Hz to 5 kHz; current derating above 1 kHz using the formula: 1000 A x 1 / F (in kHz) |                                                 |                                                                                                                                                                                                                                 |       |
| Load Impedance                | 5 Ω max                                                                                 | 100 kΩ min                                      |                                                                                                                                                                                                                                 |       |
| Working / Common Mode Voltage | 600 V CAT III                                                                           |                                                 |                                                                                                                                                                                                                                 |       |
| Output Termination            | (2) 4 mm safety banana jacks                                                            | 5 ft (1.5 m) lead with 4 mm safety banana plugs |                                                                                                                                                                                                                                 |       |
| MECHANICAL                    |                                                                                         |                                                 |                                                                                                                                                                                                                                 |       |
| Jaw Opening                   | 2.25 in (57 mm) max                                                                     |                                                 |                                                                                                                                                                                                                                 |       |
| Maximum Conductor Size        | 2.05 in (52 mm)                                                                         |                                                 |                                                                                                                                                                                                                                 |       |
| Maximum Bus Bar Size          | (1) (1.95 x 0.19) in (50 x 5) mm                                                        |                                                 |                                                                                                                                                                                                                                 |       |
| Dimensions                    | (4.37 x 8.50 x 1.77) in (111 x 216 x 45) mm                                             |                                                 |                                                                                                                                                                                                                                 |       |
| Weight                        | 1.21 lb (550 g)                                                                         |                                                 |                                                                                                                                                                                                                                 |       |
| 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) %                                                                             | (0 to 90) %                                     |                                                                                                                                                                                                                                 |       |
| SAFETY                        |                                                                                         |                                                 |                                                                                                                                                                                                                                 |       |
| Electrical                    | EN 61010-2-32                                                                           |                                                 |                                                                                                                                                                                                                                 |       |
| UL Approval                   | Yes - United States and Canada                                                          |                                                 |                                                                                                                                                                                                                                 |       |

Consult factory for NIST Calibration prices.

| CAT. #  | DESCRIPTION                                                             |
|---------|-------------------------------------------------------------------------|
| 2116.29 | AC Current Probe Model SR701 (1000 A, 1 mA/A, Jack) HA* L**             |
| 2116.30 | AC Current Probe Model SR704 (1000 A, 1 mA/A, Lead) HA* L**             |
| 2116.32 | AC Current Probe Model SR752 (1000 A, 1 mV/A, Lead) HA*                 |
| 2116.33 | AC Current Probe Model SR759 (1 A, 10 A, 100 A, 1000 A, mV/A, Lead) HA* |

\*HA - High Accuracy and Low Phase Shift, \*\*L - Limited open Voltage Output

# CURRENT MEASUREMENT PROBES

## GENERAL PURPOSE PROBES SELECTION CHART

| Series                                                                              | Model  | Ratio  | Measurement Range                 |                               | Output Signal |                                                      | Phase Shift** | Maximum Conductor Size             |                              | Output Connection | CAT. #  |
|-------------------------------------------------------------------------------------|--------|--------|-----------------------------------|-------------------------------|---------------|------------------------------------------------------|---------------|------------------------------------|------------------------------|-------------------|---------|
|                                                                                     |        |        | AC                                | DC                            | Current       | Voltage                                              |               | Ø Cable                            | Bus Bar                      |                   |         |
|    | MN01   | 1000:1 | (2 to 150) A                      | —                             | 1 mA/A*       | —                                                    | N / A         | 0.39 in (10 mm)                    | N / A                        | Leads             | 2129.17 |
|                                                                                     | MN02   | 1000:1 | 50 mA to 100 A<br>50 mA to 90 A   | —                             | 1 mA/A*       | —                                                    | N / A         | 0.39 in (10 mm)                    | N / A                        | Leads             | 2129.20 |
|                                                                                     | MN05   | —      | 5 mA to 10 A<br>(1 to 100) A      | —                             | —             | 1 mV/mA<br>1 mV/A                                    | N / A         | 0.39 in (10 mm)                    | N / A                        | Leads             | 2129.19 |
|                                                                                     | MN09   | —      | (1 to 150) A                      | —                             | —             | 100 mV <sub>DC</sub> / A <sub>AC</sub>               | N / A         | 0.39 in (10 mm)                    | N / A                        | Leads             | 2129.21 |
|    | MN114  | —      | 1 mA to 10 A                      | —                             | —             | 100 mV/A                                             | < 8 °         | 0.47 in (12 mm)                    | N / A                        | Leads             | 2110.71 |
|                                                                                     | MN185  | 1000:1 | 50 mA to 120 A                    | —                             | 1 mA/A        | —                                                    | < 3.5 °       | 0.47 in (12 mm)                    | N / A                        | Jacks             | 100.185 |
|   | MN255  | —      | (0.1 to 24) A<br>(0.1 to 240) A   | —                             | —             | 100 mV/A<br>10 mV/A                                  | < 2.5 °       | 0.78 in (20 mm)                    | N / A                        | Leads             | 2115.81 |
|                                                                                     | MN261  | —      | (0.1 to 24) A<br>(0.5 to 240) A   | —                             | —             | 100 mV/A<br>10 mV/A                                  | < 6 °         | 0.78 in (20 mm)                    | N / A                        | BNC               | 2115.82 |
|                                                                                     | MN291  | —      | (0.5 to 240) A                    | —                             | —             | 100 mV <sub>DC</sub> / A <sub>AC</sub>               | N / A         | 0.78 in (20 mm)                    | N / A                        | Leads             | 2115.84 |
|                                                                                     | MN307  | —      | 10 mA to 12 A                     | —                             | —             | 100 mV/A                                             | < 2.5 °       | 0.78 in (20 mm)                    | N / A                        | Leads             | 2116.23 |
|                                                                                     | MN312  | 1000:1 | (0.1 to 200) A                    | —                             | 1 mA/A*       | —                                                    | < 2.5 °       | 0.78 in (20 mm)                    | N / A                        | Jacks             | 2116.24 |
|                                                                                     | MN352  | —      | (0.1 to 150) A                    | —                             | —             | 10 mV/A                                              | < 2.5 °       | 0.78 in (20 mm)                    | N / A                        | Jacks             | 2116.26 |
|                                                                                     | MN353  | —      | (0.1 to 150) A                    | —                             | —             | 10 mV/A                                              | < 2.5 °       | 0.78 in (20 mm)                    | N / A                        | Leads             | 2116.27 |
|                                                                                     | MN373  | —      | (0.01 to 2.4) A<br>(0.1 to 200) A | —                             | —             | 1000 mV/A<br>10 mV/A                                 | < 3 °         | 0.78 in (20 mm)                    | N / A                        | Leads             | 2116.28 |
|                                                                                     | MN375  | —      | (0.1 to 10) A                     | —                             | —             | 100 mV/A                                             | < 1.5 °       | 0.78 in (20 mm)                    | N / A                        | Leads             | 2115.41 |
|                                                                                     | MN379  | —      | 5 mA to 6 A<br>(0.1 to 120) A     | —                             | —             | 200 mV/A<br>10 mV/A                                  | < 4 °         | 0.78 in (20 mm)                    | N / A                        | Leads             | 2153.01 |
|                                                                                     | MN379T | —      | 5 mA to 6 A<br>(0.1 to 120) A     | —                             | —             | 200 mV/A<br>10 mV/A                                  | < 4 °         | 0.78 in (20 mm)                    | N / A                        | Lead w / BNC      | 2153.02 |
|  | SL206  | —      | 10 mA to 1.5 A<br>50 mA to 60 A   | 10 mA to 2 A<br>50 mA to 80 A | —             | 1 mV/mA <sub>AC/DC</sub><br>10 mV/A <sub>AC/DC</sub> | < 1 °         | 0.46 in (12 mm)                    | N / A                        | Leads             | 1201.45 |
|  | MD301  | 1000:1 | (2 to 500) A                      | —                             | —             | 1 mV <sub>DC</sub> / A <sub>AC</sub>                 | N / A         | 1.18 in (30 mm)<br>(2 x 500) kcmil | (2.48 x 0.20) in (63 x 5) mm | Leads             | 1201.07 |
|                                                                                     | MD305  | 1000:1 | (1 to 600) A                      | —                             | 1 mA/A        | —                                                    | < 1 °         | 1.18 in (30 mm)<br>(2 x 500) kcmil | (2.48 x 0.20) in (63 x 5) mm | Leads             | 1201.36 |

\*Output protection for open secondary.

\*\*Phase shift indicated at maximum rating.

Note: Models MN103, MN114 and 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 | CAT. #  |
|-------------------------------------------------------------------------------------|-------|--------|--------------------------------------------------------|--------------------------------|---------------|-----------------------------------|-----------------|------------------------|-----------------------------------------|-------------------|---------|
|                                                                                     |       |        | AC                                                     | DC                             | CURRENT       | VOLTAGE                           |                 | Ø CABLE                | BUS BAR                                 |                   |         |
|    | MR415 | —      | (0.5 to 400) A                                         | (0.5 to 600) A                 | —             | 1 mV/A                            | ≤ 1.5 °         | 1.18 in (30 mm)        | 2 bus bar (1.24 x 0.39) in (31 x 10) mm | 5 ft (1.5 m) Lead | 1200.80 |
|                                                                                     | MR416 | —      | (0.5 to 40) A (0.5 to 400) A                           | (0.5 to 60) A (0.5 to 600) A   | —             | 10 mV/A 1 mV/A                    | ≤ 2.2 ° ≤ 1.5 ° | 1.53 in (39 mm)        | 2 bus bar (1.95 x 0.19) in (50 x 5) mm  | 5 ft (1.5 m) Lead | 1200.82 |
|                                                                                     | MR526 | —      | (0.5 to 100) A (0.5 to 1000) A                         | (0.5 to 150) A (0.5 to 1400) A | —             | 10 mV/A 1 mV/A                    | ≤ 2 ° ≤ 1.5 °   | 1.53 in (39 mm)        | 2 bus bar (1.95 x 0.19) in (50 x 5) mm  | 5 ft (1.5 m) Lead | 1200.83 |
|   | SR601 | 1000:1 | (0.1 to 1200) A                                        | —                              | 1 mA/A*       | —                                 | < 0.5 °         | 2.05 in (52 mm)        | (1.95 x 0.19) in (50 x 5) mm            | Jacks             | 2113.43 |
|                                                                                     | SR604 | 1000:1 | (0.1 to 1200) A                                        | —                              | 1 mA/A*       | —                                 | < 0.5 °         | 2.05 in (52 mm)        | (1.95 x 0.19) in (50 x 5) mm            | Leads             | 2113.44 |
|                                                                                     | SR651 | —      | (0.1 to 1200) A                                        | —                              | —             | 1 mV/A                            | < 0.5 °         | 2.05 in (52 mm)        | (1.95 x 0.19) in (50 x 5) mm            | Jacks             | 2113.45 |
|                                                                                     | SR701 | 1000:1 | 1 mA to 1000 A                                         | —                              | 1 mA/A*       | —                                 | < 0.7 °         | 2.05 in (52 mm)        | (1.95 x 0.19) in (50 x 5) mm            | Jacks             | 2116.29 |
|                                                                                     | SR704 | 1000:1 | 1 mA to 1000 A                                         | —                              | 1 mA/A*       | —                                 | < 0.7 °         | 2.05 in (52 mm)        | (1.95 x 0.19) in (50 x 5) mm            | Leads             | 2116.30 |
|                                                                                     | SR752 | —      | (0.1 to 1000) A                                        | —                              | —             | 1 mV/A                            | < 0.7 °         | 2.05 in (52 mm)        | (1.95 x 0.19) in (50 x 5) mm            | Leads             | 2116.32 |
|                                                                                     | SR759 | —      | 1 mA to 1 A 10 mA to 10 A (0.1 to 100) A (1 to 1000) A | —                              | —             | 1000 mV/A 100 mV/A 10 mV/A 1 mV/A | < 1 °           | 2.05 in (52 mm)        | (1.95 x 0.19) in (50 x 5) mm            | Leads             | 2116.33 |
|  | K100  | —      | 0.1 mA to 3 A                                          | 0.05 mA to ± 4.5 A             | —             | 1 mV/mA                           | N / A           | 0.18 in (4.5 mm)       | N / A                                   | Plugs             | 1200.67 |
|                                                                                     | K110  | —      | (0.1 to 300) mA                                        | (0.05 to ± 450) mA             | —             | 10 mV/mA                          | N / A           | 0.18 in (4.5 mm)       | N / A                                   | Plugs             | 2111.73 |
|  | LM102 | 1000:1 | 50 mA to 200 A                                         | —                              | 1 mA/A*       | —                                 | < 3 °           | 0.63 in (16 mm)        | N / A                                   | Leads             | 2153.04 |
|                                                                                     | LM103 | —      | (0.1 to 200) A                                         | —                              | —             | 1 mV/A                            | < 3 °           | 0.63 in (16 mm)        | 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 (2 m) coaxial cable with insulated BNC connector rated 600 Vrms



### Jacks

Two standard safety banana jacks (4 mm)



### Leads

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



### Shrouded Banana Plugs

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



# CURRENT MEASUREMENT PROBES

## AMPFLEX® AND MINIFLEX® PROBES - SELECTION CHARTS

| SERIES                                                                            | MODEL             | RATIO | MEASUREMENT RANGE            | OUTPUT SIGNAL                        | MAXIMUM CONDUCTOR SIZE | CAT. #  |
|-----------------------------------------------------------------------------------|-------------------|-------|------------------------------|--------------------------------------|------------------------|---------|
|  | MF 300-10-2-10-HF | —     | (30 / 300) A                 | 100 mV/A, 10 mV/A                    | 2.95 in (75 mm)        | 2126.84 |
|                                                                                   | MF 3000-14-1-1-HF | —     | 3000 A                       | 1 mV/A                               | 3.93 in (100 mm)       | 2126.86 |
|  | MA114             | —     | (3 / 30 / 300 / 3000) A      | 1 mV/mA, 100 mV/A<br>10 mV/A, 1 mV/A | 4 in (101 mm)          | 2153.41 |
|  | 300-24-2-10       | —     | (30 / 300) A                 | 100 mV/A, 10 mV/A                    | 7.48 in (190 mm)       | 2112.88 |
|                                                                                   | 1000-24-1-1       | —     | 1000 A                       | 1 mV/A                               | 7.48 in (190 mm)       | 2112.39 |
|                                                                                   | 1000-24-2-1       | —     | (100 / 1000) A               | 10 mV/A, 1 mV/A                      | 7.48 in (190 mm)       | 2112.98 |
|                                                                                   | 1000-36-2-1       | —     | (100 / 1000) A               | 10 mV/A, 1 mV/A                      | 11 in (280 mm)         | 2113.00 |
|                                                                                   | 3000-24-1-1       | —     | 3000 A                       | 1 mV/A                               | 7.48 in (190 mm)       | 2112.46 |
|                                                                                   | 3000-36-1-1       | —     | 3000 A                       | 1 mV/A                               | 11 in (280 mm)         | 2112.48 |
|                                                                                   | 3000-24-2-1       | —     | (300 / 3000) A               | 10 mV/A, 1 mV/A                      | 7.48 in (190 mm)       | 2113.05 |
|                                                                                   | 3000-48-2-1       | —     | (300 / 3000) A               | 10 mV/A, 1 mV/A                      | 15 in (381 mm)         | 2112.01 |
|                                                                                   | 6000-36-2-0.1     | —     | (600 / 6000) A               | 1 mV/A, 0.1 mV/A                     | 11 in (280 mm)         | 2113.21 |
|                                                                                   | 30000-24-2-0.1    | —     | (3000 / 30,000) A            | 1 mV/A, 0.1 mV/A                     | 7.48 in (190 mm)       | 2113.33 |
|  | 24-3001           | —     | 300 A / 3000 A <sub>AC</sub> | 10 mV/A, 1 mV/A                      | 7.48 in (190 mm)       | 2120.81 |

Consult factory for NIST Calibration price.

## OSCILLOSCOPE & BNC TERMINATED PROBES

| MODEL                                                                                                | MEASUREMENT RANGE                                |                                   | OUTPUT SIGNAL                 | PHASE SHIFT*       | MAXIMUM CONDUCTOR SIZE |                                               | OUTPUT CONNECTION         |
|------------------------------------------------------------------------------------------------------|--------------------------------------------------|-----------------------------------|-------------------------------|--------------------|------------------------|-----------------------------------------------|---------------------------|
|                                                                                                      | AC                                               | DC                                |                               |                    | Ø CABLE                | BUS BAR                                       |                           |
|  SL261            | 100 mA to 10 A<br>(1 to 100) A                   |                                   | 100 mV/A<br>10 mV/A           | < 1.5 °            | 0.46 in<br>(12 mm)     | N / A                                         | 6.5 ft (2 m) Lead w / BNC |
|  MN261            | (0.1 to 24) A<br>(0.5 to 240) A                  | —                                 | 100 mV/A<br>10 mV/A           | < 2.5 °            | 0.78 in<br>(20 mm)     | N / A                                         | 6.5 ft (2 m) Lead w / BNC |
|  SR661            | (0.1 to 12) A<br>(0.1 to 120) A<br>(1 to 1200) A | —                                 | 100 mV/A<br>10 mV/A<br>1 mV/A | < 1 °              | 2.05 in<br>(52 mm)     | (1.96 x 0.19) in<br>(50 x 5) mm               | 6.5 ft (2 m) Lead w / BNC |
|  MN251T<br>MN379T | (0.5 to 240) A                                   | —                                 | 1 mV/A                        | ≤ 2.5 °            | 0.78 in<br>(20 mm)     | (0.78 x 0.19) in<br>(20 x 5) mm               | 10 ft (3 m) Lead w / BNC  |
|                                                                                                      | (0.005 to 6) A<br>(0.1 to 120) A                 | —                                 | 200 mV/A<br>10 mV/A           | ≤ 4 °<br>≤ 2.2 °   | 0.78 in<br>(20 mm)     | (0.78 x 0.19) in<br>(20 x 5) mm               | 10 ft (3 m) Lead w / BNC  |
|  MH60             | (0.5 to 100) A                                   | (0.5 to 100) A                    | 10 mV/A                       | < 1 °              | 1.02 in<br>(26 mm)     | N / A                                         | 6.6 ft (2 m) Lead w / BNC |
|  MR417            | (0.5 to 40) A<br>(0.5 to 400) A                  | (0.5 to 60) A<br>(0.5 to 600) A   | 10 mV/A<br>1 mV/A             | ≤ 2.2 °<br>≤ 1.5 ° | 1.18 in<br>(30 mm)     | 2 bus bar<br>(1.24 x 0.39) in<br>(32 x 10) mm | 6.6 ft (2 m) Lead w / BNC |
|  MR527            | (0.5 to 100) A<br>(0.5 to 1000) A                | (0.5 to 150) A<br>(0.5 to 1400) A | 10 mV/A<br>1 mV/A             | ≤ 2.2 °<br>≤ 1.5 ° | 1.53 in<br>(39 mm)     | 2 bus bar<br>(1.96 x 0.19) in<br>(50 x 5) mm  | 6.6 ft (2 m) Lead w / BNC |

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