

## 4. SPECIFICATIONS

### 4.1 Electrical



**NOTE:** The measurement ranges specified are for the probes and sensors. In some cases, they may differ from the ranges that can be measured by the connected instrument.



**NOTE:** For complete specifications refer to the product user manual that is supplied with each compatible instrument.

Model	Measurement Range	Compatibility
<b>AmpFlex® 193-24-BK</b> <sup>(1)</sup> 24 in (610 mm)	200 mA to 10 kAAC <sup>(2)</sup> (12,000 A) <sup>(3)</sup>	All PowerPads and PEL 100 Series
<b>AmpFlex® 193-36-BK</b> <sup>(1)</sup> 36 in (910 mm)	200 mA to 10 kAAC <sup>(2)</sup> (12,000 A) <sup>(3)</sup>	All PowerPads and PEL 100 Series
<b>AmpFlex® 196A-24-BK</b> <sup>(1)</sup> 24 in (610 mm)	200 mA to 10 kAAC <sup>(2)</sup> (12,000 A) <sup>(3)</sup>	8435, 8436, and PEL 105
<b>MiniFlex® MA193-BK</b> <sup>(1)</sup> 10 in (250 mm)	200 mA to 3000 AAC (10,000 A peak)	All PowerPads and PEL 100 Series
<b>MiniFlex® MA193-BK</b> <sup>(1)</sup> 14 in (355 mm)	200 mA to 3000 AAC (10,000 A peak)	All PowerPads and PEL 100 Series
<b>MiniFlex® MA194-BK</b> <sup>(1)</sup> 24 in (606 mm)	100 mA to 3000 AAC (10,000 A peak)	All PowerPads and PEL 100 Series
<b>E94</b>	10 A: 0.1 - 10 A peak 100 A: 0.5 to 100 A peak	8345
<b>MN93-BK</b>	2 to 240 AAC (I >200 A not permanent)	All PowerPads and PEL 100 Series
<b>MN94</b>	0.05 to 200 AAC	8345 and PEL 52
<b>MN193-BK</b>	5 A: 0.005 to 6 AAC 100 A: 0.1 to 120 AAC	PowerPads and PEL 100 Series
<b>MR193-BK</b>	10 AAC to 1000 AAC; 10 APEAK AC+DC to 1300 APEAK AC+DC	All PowerPads and PEL 100 Series
<b>SL261</b>	100 mV/A: 100 mA to 10 A peak 10 mV/A: 1 to 100 A peak	All PowerPads and PEL 100 Series
<b>SR193-BK</b>	1 AAC to 1200 AAC (I > 1000 A not continuously)	All PowerPads and PEL 100 Series

(1) 10 to 6500 AAC for Model 8435; 100 mA to 6500 A for Model 8436

(2) 200 mA to 10,000 A measurement range for the PEL 100 Series.

(3) 12,000 A is specified for the PEL 100 Series only.

Battery: 9 V Alkaline NEDA 1604 A, 6LR61

Battery Life: MR193-BK - 100 h typical  
SL261 - 55 h typical



**NOTE:** Battery life is twice the typical value when using Lithium batteries.

## 4.2 Environmental

### Indoor use

Operating Temperature: (14 to 131) °F (-10 to 55) °C; (10 to 85) % RH

Storage Temperature: (-40 to 158) °F (-40 to 7) °C; (10 to 90) % RH

Degree of pollution: 2

Altitude: < 2000 m

## 4.3 Mechanical

Model	Lead Length (nominal)	Clamping Diameter	Dimensions	Weight
<b>AmpFlex® 193-24-BK</b> 24 in (610 mm)	10 ft (3 m)	7.64 in (190 mm)	(6.6 x 6.2 x 0.98) in (170 x 158 x 25) mm	7.7 oz (270 g)
<b>AmpFlex® 193-36-BK</b> 36 in (910 mm)	10 ft (3 m)	11.46 in (290 mm)	(11 x 10.4 x 0.98) in (280 x 265 x 25) mm	9.5 oz (220 g)
<b>AmpFlex® 196A-24-BK</b> 24 in (610 mm)	10 ft (3 m)	7.64 in (190 mm)	(6.6 x 6.2 x 0.98) in (170 x 158 x 25) mm	7.7 oz (270 g)
<b>MiniFlex® MA193 -10-BK</b> 10 in (250 mm)	10 ft (3 m)	2.75 in (70 mm)	(4.0 x 2.5 x 1.1) in (103 x 64 x 28) mm	1.94 oz (55 g)
<b>MiniFlex® MA193-14-BK</b> 14 in (350 mm)	10 ft (3 m)	3.94 in (100 mm)	(4.0 x 2.5 x 1.1) in (103 x 64 x 28) mm	2.11 oz (60 g)
<b>MiniFlex® MA194-24-BK</b> 24 in (606 mm)	10 ft (3 m)	7.64 in (190 mm)	(4.0 x 2.5 x 1.1) in (103 x 64 x 28) mm	2.11 oz (60 g)
<b>E94</b>	10 ft (3 m)	.464 in (11.8 mm)	(9.09 x 1.41 x 2.65) in (231 x 36 x 67) mm	11.64 oz (330 g)
<b>MN93-BK</b>	10 ft (3 m)	0.8 in (20 mm)	(5.47 x 2.00 x 1.18) in (135 x 51 x 30) mm	24 oz (690 g)
<b>MN94</b>	10 ft (3 m)	0.63 in (16 mm)	(5.12 x 1.81 x 1.34) in (130 x 46 x 34) mm	8.82 oz (250 g)
<b>MN193-BK</b>	10 ft (3 m)	0.8 in (20 mm)	(5.47 x 2.00 x 1.18) in (135 x 51 x 30) mm	24 oz (690 g)
<b>MR193-BK</b>	10 ft (3 m)	One 1.6 in (42 mm) or two 0.98 in (25 mm) or two bus bars (1.96 x 0.19) in (50 x 5) mm	(8.8 x 3.82 x 1.73) in (224 x 97 x 44) mm	19 oz (540 g)
<b>SL261</b>	6.5 ft (1.9 m)	0.46 in (11.8 mm)	(9.09 x 1.42 x 2.64) in (231 x 36 x 67) mm	11.6 oz (330 g)
<b>SR193-BK</b>	10 ft (3 m)	2 in (52 mm)	(8.5 x 4.4 x 1.8) in (216 x 111 x 45) mm	24 oz (690 g)

## 4.4 Safety

Protection index IP 40 for the probes and IP 30 jaws open, according to IEC 60 529.

- IP 20 for E94 and MN94 clamps, according to IEC 60 529.
- IP 65 for the AmpFlex® according to IEC 60 529
- IK 04 according to IEC 50102

Drop test: According to IEC 61010-1

Electrical safety according to IEC 61010-2-032.

Maximum applicable voltage:

AmpFlex® 193-BK:	1000 V CAT III; 600 V CAT IV
AmpFlex® 196A-BK:	1000 V CAT IV
MiniFlex®-BK:	1000 V CAT III; 600 V CAT IV
E94:	600 V CAT III; 300 V CAT IV
MN93 / MN94 / MN193-BK / MN194-BK:	600 V CAT III; 300 V CAT IV
MR193-BK:	600 V CAT III; 300 V CAT IV
SL261:	600 V CAT III
SR193-BK:	1000 V CAT III; 600 V CAT IV

## 4.5 Conformity To International Standards

The instruments are compliant with IEC 61010-2-032.

The equipment is protected by double or reinforced insulation .

Type of current sensor per IEC 61010-2-032:

Type A  or Type B  for the Ampflexes.

## 4.6 Electromagnetic Compatibility

The instruments conform with standard IEC 61326-1.

*Specifications are subject to change without notice.*

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Current Probes & Sensors for Power Quality Meters and Power Energy Loggers