

# SUWI-120 SERIES Multifunction Substation Test Set

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## SUWI-120 SERIES: MULTIFUNCTION SUBSTATION TEST SET

SUWI-120 series stands as a versatile testing instrument meticulously crafted to evaluate the performance of power and control apparatus within substations.

It encompasses an array of essential tests, including the precise assessment of Relay Timing, the determination of a Transformer's Turns Ratio, the scrutiny of Circuit Breaker Contact Resistance and Timing, as well as the examination of MCBs, among other critical functions.

This all-encompassing substation testing device has earned the name SUWI, from our belief in its skills as a Substation Wizard.

#### RELAY TIMING MEASUREMENT

The SUWI instrument can automatically test over-current, over-voltage, directional overcurrent relays and frequency control relays.

SUWI has an adjustable output current up to 110A AC / 120A DC and an adjustable output voltage to 150V AC / 220V DC. It has four universal input modules.

#### PROTECTION SYSTEM: HV-MV LINES

#### TURNS RATIO MEASUREMENT

Employing elements of performance tests specified in the ANSI/IEEE C57.12.90 standard, the instrument performs transformer ratio measurements to a precision of 0.08 % across a ratio range of 0.8 to 10,000.

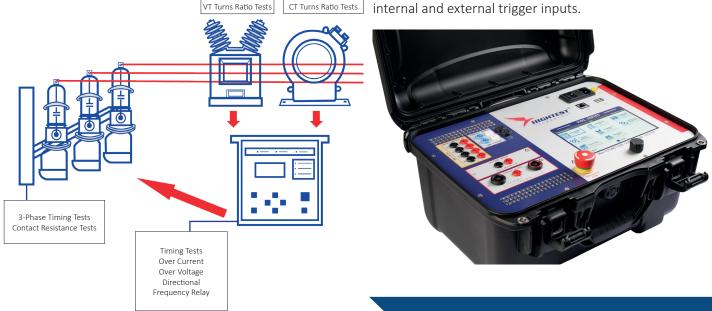
SUWI also measures phase angle and polarity, and it can generate 1V, 4V, 10V, 40V and 100V AC test voltages to facilitate the measurement of the turns ratio for current, voltage and power transformers.

#### CONTACT RESISTANCE / LOW RESISTANCE MEASUREMENT

SUWI has an adjustable output DC current up to 120 Amps which facilitates the measurement of contact resistance of a circuit breaker, a shunt or disconnector. SUWI-120 can measure resistance up to 5  $\Omega$ , with a resolution of 0.01  $\mu\Omega$ .

#### CIRCUIT BREAKER TIMING

Contact Timing Tests are performed to determine a breaker's contact performance against its manufactured specifications. The timing for a breaker's operation such as OPEN, CLOSE, OPEN-CLOSE, CLOSE-OPEN and OPEN-CLOSE-OPEN are measured for all three-phases simultaneously. SUWI can perform 3-phase circuit breaker timing test cycles as described above along with coil current measurements using internal and external trigger inputs.



## **TECHNICAL SPECIFICATIONS**

internet internet measurement, internal and external trigger operations)   Current Outputs Up to 110 A A C (magnitude and frequency adjustable)   Voltage Outputs 200 V C (magnitude and frequency adjustable)   unversal input Module: input module: Binary wer/dry   Up to 300 V AC/D collage measurement Innov Module:   Ratio Measurement Mode CT Mode T Mode (single Phase and Three-Phase)   Test Voltages CT Mode: 1 V and 4 V ; PT Mode 1, 0, 40 & 00 V   Ratio Ange 0.8 - 10,000   Measurement Modes StaticResistance Measurement   Matos Range 0.8 - 10,000   Measurement Modes StaticResistance Measurement   Measurement Modes StaticResistance Measurement   Measurement Modes StaticResistance Measurement   Measurement Modes Contract TERSISTANCE/LOW RESISTANCE MEASUREMENT FEATURES   Measurement Modes Contract Timing (O, C, C, C, C, O & O, C-O); Coll Current Measurement, Internal and External Trigger Operations   Timing Accuracy 0.95% rdg + 0.1 ms   Output S Current Measurement, Internal And External Trigger Operations   Timing Accuracy 0.4, 30.0 V C or AC <sub>pesk</sub> Timing Accuracy 0.95% rdg + 0.1 ms   Output S Current Measurement, Internal and External Trigger Operations   Timing Accuracy 0.4, 30.0 V C or AC <sub>pesk</sub>		
PROTECTION RELAY TIMING MEASUREMENT FEATURES       Current Outputs     Up To 110 A AC (magnitude and frequency adjustable) 150 V AC (magnitude and frequency adjustable) 220 V DC       Universal Input Module:     Iinput madule: Binary wer/dry Up to 300 V AC/DC voltage measurement       TURNS RATIO MEASUREMENT FEATURES       CT Mode PT Mode (Single-Phase and Three-Phase)       CT Mode:     II. Yu A, 10, 40 & 100 V       Ratio Range     0.8 – 10.000       CONTACT RESISTANCE/LOW RESISTANCE MEASUREMENT FEATURES       Measurement Modes     Statichesistance Measurement       Auto Test Mode     Yes       Measurement Range     0.8 – 10.000       Wessurement Range     Vito 10 2 0 ADC       Measurement Range     Vito 10 2 0 ADC       Measurement Range     Contact Timing (O, C, -C, -C, -C 0, & O, -C); Contact Timing (O, C, -C, -C, -C 0, & O, -C); Contact Timing (O, C, -C, -C, -C 0, & O, -C); Contact Timing (O, C, -C, -C, -C 0, & O, -C); Contact Timing (O, C, -C, -C, -C, -C); Contact Timing (O, C, -C, -C, -C, -C); Contact Timing (O, -C, -C, -C, -C, -C, -C); Contact teetcinter       Timing X- 20, D	Measurement Parameters	frequency control relays); Turns Ratio Measurement, Phase Angle, Polarity, Ratio Error (%); Contact Resistance/Low Resistance Tests (Circuit breaker contact resistance and shunt resistance) Circuit breaker timing test (3-phase circuit breaker timing tests; open, close, open-close, close-open,
Current Outputs     Up to 120 A D C       Voltage Outputs     150 V AC (magnitude and frequency adjustable) 20 V DC       Universal Input Modules     Input module; Binary wer/dry Up to 300 V AC/DC voltage measurement       Ratio Measurement Modes     CT Mode FM Mode (Single-Phase and Three-Phase)       Test Voltages     CT Mode: 1, 4, 10, 40 & 100 V       Ratio Measurement Modes     StaticResistance Measurement       CONTACT RESISTANCE/LOW RESISTANCE MEASUREMENT FEATURES       Measurement Modes     StaticResistance Measurement       Auto Test Mode     Ves       Test Current     Up to 120 A DC       Measurement Modes     Up to 120 A DC       Measurement Range     Up to 120 A DC       Measurement Parameters     Contact Timing (O, C, O-C, C-O & O-C-O); Col Current Measurement, Internal and External Trigger Operations       Timing Accuracy     005% rdg ± 0.1 ms       Measurement Parameters     Contact Timing (O, C-C, C-O & O-C-O); Col Current Measurement, Internal and External Trigger Operations       Timing Accuracy     005% rdg ± 0.1 ms       Timing Accuracy     005% rdg ± 0.1 ms       Initiate capacity     Ves       Contact Timing (O, C-C, C-O & C-O-Q); Coll Current Measurement, Internal and External Trigger Operations		
Voltage Outplus     220 V DC       Universal Input Modules     4 input module; Binary wet/dry Up to 300 VAC/DC voltage measurement       Ratio Measurement Modes     CT Mode PT Mode (Single-Phase and Three-Phase)       Test Voltages     CT Mode: 1 V and 4 V; PT Mode (Single-Phase and Three-Phase)       Test Voltages     CT Mode: 1 V and 4 V; PT Mode (Single-Phase and Three-Phase)       Test Voltages     CT Mode: 1 V and 4 V; PT Mode (Single-Phase and Three-Phase)       Measurement Modes     StaticResistance Measurement       Auto Test Mode     Yes       Measurement Range     Up to 120 A DC       Measurement Range     Up to 5 0       Contact Timing (D, C, O-C, C-O & O-C-O); Coil Current Measurement, Internal Trigger Operations       Timing Windows     1s, 10s, 20s       Timing Accuracy     0.05% rdg ± 0.1 ms       Contact Timing (D, C, O-C, C-O & O-C-O); Coil Current Measurement, Internal Trigger Operations       Tingger input voltage     24 - 300 V D C or Ac <sub>ceat</sub> Trigger input voltage     24 - 300 V D C or Ac <sub>ceat</sub> Trigger Input voltage     24 - 300 V D C or Ac <sub>ceat</sub> Trigger Input voltage     24 - 300 V D C or Ac <sub>ceat</sub> Tring Windows     1s, 20, 20 A D C s KHz       Commanication	Current Outputs	
Universal input woldues     Up to 300 V AC/DC voltage measurement       TURNS RATIO MEASUREMENT FEATURES       Ratio Measurement Modes     CT Mode: 1 v and 4 V; PT Mode: 1, 4, 10, 48 100 V       Ratio Range     0.8 - 10,000       Total Control Cont	Voltage Outputs	
Ratio Measurement Mode     CT Mode PT Mode (Single-Phase and Three-Phase)       Test Voltages     CT Mode : 1, 4, 10, 40 & 100 V       Ratio Range     0.8 – 10,000       Ratio Range     0.8 – 10,000       COTTACT RESISTANCE/LOW RESISTANCE MEASUREMENT FEATURES       Measurement Mode     Yes       Test Current     Up to 120 A DC       Measurement Range     Up to 5 Q       CIRCUIT BREAKER TIMING MEASUREMENT FEATURES       Measurement Parameters     Contact Timing (0, C, O-C, C-0 & Q-C-O); Coil Current Measurement, Internal and External Trigger Operations       Timing Accuracy     0.005 kr gt ± 0.1 ms       Contact Greation     Yes       Trigger input voltage     24 – 300 V DC or AC <sub>peas</sub> Initiate Capacity     20, 0.2, 0.4, 0.4       Power Supply     100-240 V, 47/63 Hz       Internal Memory     Yes       Communication     USB 2.0/1.1 Standard-B, Ethermet       PC Software     DMP Software       Display     7.1 nch IPS 1024x600 pixel touch panel display       Display     7.1 nch 1PS 1024x600 pixel touch panel display       Display     7.1 nch 1PS 1024x600 pixel touch panel display       Display     1.0 °C tot +60	Universal Input Modules	
Ratio Measurement Modes     PT Mode (single-Phase and Three-Phase)       Test Voltages     CT Mode: 1 V and 4 V ; PT Mode: 1, 4, 10, 40 & 100 V       Ratio Range     0.8 – 10,000       Measurement Modes     StaticResistANCE/LOW RESISTANCE MEASUREMENT FEATURES       Measurement Modes     StaticResistance Measurement       Auto Test Mode     Vp to 120 A DC       Measurement Range     Up to 120 A DC       Measurement Parameters     CIRCUIT BREAKER TIMING MEASUREMENT FEATURES       Measurement Parameters     Contact Timing (0, c, O-c, C-O & O-C-O); Coll Current Measurement, Internal and External Trigger Operations       Timing Windows     13, 10s, 20s       Timing Windows     13, 10s, 20s       Timing Accuracy     0.05% rdg ± 0.1 ms       Contact teitection     Yes       Trigger input voltage     24-300 V DC or AC <sub>peak</sub> Breaker Initiate Current reading Initiate current reading     0-200 A C, S Hz       Power Supply     10-204 U, 47/63 Hz       Internal Memory     Yes       Communication     US SU/LI Standard-B, Ethernet       Postoware     0.048       Dimensions     0.054 Rdg       Weight     10.70 Lot +60 °C; Storage: -30 °C to +		TURNS RATIO MEASUREMENT FEATURES
Test voitages     PT Mode: 1, 4, 10, 40 & 100 V       Ratio Range     0.8 – 10,000       Contract Resistance/Low Resistance Measurement     Contract Resistance Measurement       Measurement Modes     Staticesistance Measurement       Auto Test Mode     Yes       Test Current     Up to 120 A DC       Measurement Range     Up to 5 Ω       Octact Timing (0, C, O-C, C-0 & O-C-0); Coll Current Measurement, Internal and External Trigger Operations       Timing Windows     1s, 10s, 20s       Timing Accuracy     0.55% rdg ± 0.1 ms       Contact detection     Yes       Breaker Initiate Capacity     20A OV C or AC <sub>peak</sub> Initiate current reading range     20-20A DC, 5 kHz       Power Supply     100-240 V, 47/63 Hz       Internal Memory     Yes       Post Supply     100-240 V, 47/63 Hz       Internal Memory     Yes       Ves     100-240 V, 47/63 Hz       Internal Memory     Yes       Operation     105-240 V, 47/63 Hz       Internal Memory     Yes       Ves     100-240 V, 47/63 Hz       Display     10.6 yex 12.9 x.33' (429 x 328 x 230 mm	Ratio Measurement Modes	
CONTACT RESISTANCE/LOW RESISTANCE MEASUREMENT FEATURES       Measurement Modes     StaticResistance Measurement       Auto Test Mode     Yes       Test Current     Up to 120 A DC       Measurement Range     Up to 5 O       CIRCUIT BREAKER TIMING MEASUREMENT FEATURES       Measurement Parametes     Contact Timing (O, C, O-C, C-O & O-C-O); Coil Current Measurement, Internal and External Trigger Operations       Timing Windows     1s, 10s, 20s       Timing Accuracy     0.05% rdg ± 0.1 ms       Contact detection     Yes       Trigger input voltage     20 A, 300 V DC or AC peak       Breaker Initiate Capacity     20 A, 300 V DC or AC peak       Initiate current reading     0-20A DC, 5 kHz       Power Supply     100-240 V, 47/63 Hz       Internal Memory     Yes       QCS Software     DMP Software       Display     7-inch IPS 1024x600 pixel touch panel display       Dimensions     (16.9 × 12.9 × 3)" (429 × 328 × 236) mm       Weight     10.7 kg       Timmedies     Sist RH Non-condensing       Protection Class     Pis M INon-condensing       Protection Class     Ken Input Cable Set (Red & Black), 1x 5m V OUT Cable Set (Red	Test Voltages	
Measurement ModesStaticResistance MeasurementAuto Test ModeYesTest CurrentUp to 120 A DCMeasurement RangeUp to 5 ΩCIRCUIT BREAKER TIMING MEASUREMENT FEATURESMeasurement ParametersContact Timing (0, C, O-C, C-0 & O-C-O); Coil Current Measurement, Internal and External Trigger OperationsTiming Windows19, 109, 208Timing Accuracy0.05% rdg ± 0.1 msContact detectionYesTrigger input voltage24 - 300 V DC or AC <sub>peak</sub> .Breaker Initiate Capation20, 300 V DC or AC <sub>peak</sub> .Initiate current reading0-20A DC, 5kHzPower Supply100-240 V, 47/63 HzInternal MemoryYesComunicationVesStoragetDisDay Of Cols AccuracyDisplay7-inct IPS 1024x600 pixel touch panel displayDisplay7-inct IPS 1024x600 pixel touch panel displayDisplay16.0 × 12.9 × 9.3" (429 × 328 × 236) mmMeight10.7 kgTemperature95% RH Non-condensingProtection Class95% RH Non-condensingProtection Class95% RH Non-condensingProtection Class167 (case closed)Norden Star (Star (St	Ratio Range	0.8 - 10,000
Ato Test ModeYesTest CurrentUp to 120 A DCMeasurement RangeUp to 5 ΩCIRCUIT BREAKER TIMING MEASUREMENT FEATURESMeasurement ParametersContact Timing (0, c, 0-C, C-0 & 0-C-0); coil Current Measurement, Internal and External Trigger OperationsTiming Windows15, 105, 205Contact detectionYesContact detectionYesInitiate current reading range-20A DC, 5 kHzPower Supply100-240 V, 47/63 HzInternal MemoryYesComunicationUS 2.0/1.1 Standard-B, EthernetPostoryUS 2.0/1.1 Standard-B, EthernetPostory16.9 × 12.9 × 3.9" (429 × 328 × 236) mmWeight10.70 kgTemperatureYes (10.5 × 12.9 × 9.3)" (429 × 328 × 236) mmMeight10.70 kgFencencencencencencencencencencencencence	CONTACT RESISTANCE/LOW RESISTANCE MEASUREMENT FEATURES	
Test Current   Up to 120 A DC     Measurement Range   Up to 5 Ω     CIRCUIT BREAKER TIMING MEASUREMENT FEATURES     Measurement Parameters   Contact Timing (0, C, O-C, C-0 & O-C-O); Coil Current Measurement, Internal and External Trigger Operations     Timing Windows   15, 105, 205     Timing Accuracy   0.05% rdg ± 0.1 ms     Contact detection   Yes     Trigger input voltage   24 - 300 V DC or AC <sub>peak</sub> .     Breaker Initiate Capacity   20 A, 300 V DC or AC <sub>peak</sub> .     Initiate current reading range   -20A DC, 5 kHz     Ocontant detection   Yes     Communication   Ves     Communication   US 2.0/1.1 Standard-B, Ethernet     Poser Supply   0.0-240 V, 47/63 Hz     Display   0.100 Sub Vace     Display   0.100 Sub Vace     Veight   0.7 inch IPS 1024x600 pixel touch panel display     Display   0.7 inch IPS 1024x600 pixel touch panel display     Weight   0.70 kg     Temperature   Vorking : -10 °C to +60 °C; Storage: -30 °C to +70 °C     Hundity   95% RH Non-condensing     Protection Class   Hord Les & Kined & Black), 1x Sm V OUT Cable Set (Red & Black), Rower Cable, Ground Cable, Ethernet Cable, US	Measurement Modes	StaticResistance Measurement
Measurement RangeUp to 5 ΩCIRCUIT BREAKER TIMING MEASUREMENT FEATURESMeasurement ParametersContact Timing (O, C, O-C, C-O & O-C-O); Coil Current Measurement, Internal and External Trigger OperationsTiming Windows15, 105, 205Timing Accuracy0.05% rdg ± 0.1 msContact detectionYesTrigger input voltage24 – 300 V D C or AC <sub>peak</sub> Breaker Initiate Capacity20 A, 300 V D C or AC <sub>peak</sub> Initiate current reading ange0-20A DC, 5 KHzPower Supply100-240 V, 47/63 HzInternal MemoryYesVortaget100-240 V, 47/63 HzNormunicationUS B 2.0/1.1 Standard-B, EthernetPOstfwareDMP SoftwareDisplay7-inch IPS 1024x600 pixel touch panel displayDimensions16.9 × 12.9 × 3.3" (429 x 328 x 236) mmWeight10.70 kgTemperature9% RH Non-condensingHumidity9% RH Non-condensingProtection Class167 (case closed)Neuded in the PackageSim Input Cable Set (Red & Black), 1x Sm VOUT Cable Set (Red & Black), 2x 3m Condact Cable, Stareger Cable, Ground Cable, Ethernet Cable, USB	Auto Test Mode	Yes
CIRCUIT BREAKER TIMING MEASUREMENT FEATURES     Measurement Parameters   Contact Timing (O, C, O-C, C-O & O-C-O); Coil Current Measurement, Internal and External Trigger Operations     Timing Windows   1s, 10s, 20s     Timing Accuracy   0.05% rdg ± 0.1 ms     Contact detection   Yes     Trigger input voltage   24 – 300 V DC or AC <sub>peak</sub> Breaker Initiate Capacity   20 A, 300 V DC or AC <sub>peak</sub> Initiate current reading range   0 – 20A DC, 5 kHz     Power Supply   100-240 V, 47/63 Hz     Internal Memory   Yes     Communication   USB 2.0/1.1 standard-B, Ethernet     PC Software   DMP Software     Display   7-inch IPS 1024x600 pixel touch panel display     Dimensions   (16.9 × 12.9 × 9.3)" (429 × 328 × 236) mm     Weight   10.70 kg     Temperature   Working : -10°C to +60°C; Storage: -30°C to +70°C     Humidity   95% RH Non-condensing     Protection Class   IP67 (case closed)     Included in the Package   Kym Input Cable Set (Red & Black), 1x 5m V OUT Cable Set (Red & Black), 2x 3m Contact Cable Set Set (Black & Med), Power Cable, Ground Cable, Ethernet Cable, USB	Test Current	Up to 120 A DC
Measurement ParametersContact Timing (0, C, O-C, C-O & O-C-O); Coil Current Measurement, Internal and External Trigger OperationsTiming Windows1s, 10s, 20sTiming Accuracy0.05% rdg ± 0.1 msContact detectionYesTrigger input voltage24 – 300 V DC or AC <sub>peak</sub> Breaker Initiate Capacity20 A, 300 V DC or AC <sub>peak</sub> Initiate current reading range0 – 20A DC, 5 kHzPower Supply100-240 V, 47/63 HzInternal MemoryYesCommunicationUSB 2.0/1.1 Standard-B, EthernetPC SoftwareDMP SoftwareDisplay7-inch IPS 1024x600 pixel touch panel displayDimensions(16.9 × 12.9 × 9.3)" (429 × 328 × 236) mmWeight10.70 kgTemperatureWorkig: -10 °C to +60 °C; Storage: -30 °C to +70 °CHumidity95% RH Non-condensingProtection ClassIP67 (case closed)Included in the PackageKing La Set (Red & Black), 1x 5m V OUT Cable Set (Red & Black), 2x 3m Contact Cable Set (Blue & White), 1x 2.5m I OUT Cable Set (Black & Red), Power Cable, Ground Cable, Ethernet Cable, USB	Measurement Range	Up to 5 Ω
Measurement ParametersCoil Current Measurement, Internal and External Trigger OperationsTiming Windows1s, 10s, 20sTiming Accuracy0.05% rdg ± 0.1 msContact detectionYesTrigger input voltage24 – 300 V DC or AC <sub>peak</sub> Breaker Initiate Capacity20 A, 300 V DC or AC <sub>peak</sub> Initiate current reading range0 – 20A DC, 5 kHzPower Supply100-240 V, 47/63 HzInternal MemoryYesCommunicationUSB 2.0/1.1 Standard-B, EthernetPOstfwareDMP SoftwareDisplay7-inch IPS 1024x600 pixel touch panel displayDimensions(16.9 × 12.9 × 9.3)" (429 × 328 × 236) mmWeight0.70 kgHumidity95% RH Non-condensingProtection ClassIP67 (case closed)Included in the PackageIP67 (case closed)		CIRCUIT BREAKER TIMING MEASUREMENT FEATURES
Timing Accuracy0.05% rdg ± 0.1 msContact detectionYesTrigger input voltage24 – 300 V DC or AC peakBreaker Initiate Capacity20 A, 300 V DC or AC peakInitiate current reading range0 – 20A DC, 5 kHzPower Supply0 – 20A DC, 5 kHzPower Supply100-240 V, 47/63 HzInternal MemoryYesCommunicationUSB 2.0/1.1 Standard-B, EthernetPC SoftwareDMP SoftwareDisplay7-inch IPS 1024x600 pixel touch panel displayDimensions(16.9 × 12.9 × 9.3)" (429 × 328 × 236) mmWeight10.70 kgTemperatureWorking : -10 °C to +60 °C; Storage: -30 °C to +70 °CHumidity95% RH Non-condensingProtection ClassIP67 (case closed)Included in the PackageAx 5m Input Cable Set (Red & Black), 1x 5m V OUT Cable Set (Red & Black), 2x 3m Contact Cable Set (Blue & White), 1x 2.5m I OUT cable Set (Black & Red), Power Cable, Ground Cable, Ethernet Cable, USB	Measurement Parameters	
Contact detectionYesTrigger input voltage24 – 300 V DC or AC peakBreaker Initiate Capacity20 A, 300 V DC or AC peakInitiate current reading range0 – 20A DC, 5 kHzOur Supply0 – 20A DC, 5 kHzPower Supply100-240 V, 47/63 HzInternal MemoryYesCommunicationUSB 2.0/1.1 Standard-B, EthernetPC SoftwareDMP SoftwareDisplay7-inch IPS 1024x600 pixel touch panel displayDimensions(16.9 × 12.9 × 9.3)" (429 × 328 × 236) mmWeight10.70 kgTemperatureWorking : -10 °C to +60 °C; Storage: -30 °C to +70 °CHumidity95% RH Non-condensingProtection ClassIP67 (case closed)Included in the PackageXrsm Input Cable Set (Red & Black), 1x 5m V OUT Cable Set (Red & Black), 2x 3m Contact Cable Set (Black & Red), Power Cable, Ground Cable, Ethernet Cable, USB	Timing Windows	1s, 10s, 20s
Trigger input voltage24 - 300 V DC or AC peakBreaker Initiate Capacity20 A, 300 V DC or AC peakInitiate current reading range0 - 20A DC, 5 kHzCommonication100-240 V, 47/63 HzNover Supply100-240 V, 47/63 HzInternal MemoryYesCommunicationUSB 2.0/1.1 Standard-B, EthernetPC SoftwareDMP SoftwareDisplay7-inch IPS 1024x600 pixel touch panel displayDimensions(16.9 × 12.9 × 9.3)" (429 × 328 × 236) mmWeight10.70 kgTemperatureWorking : -10°C to +60°C; Storage: -30°C to +70°CHumidity95% RH Non-condensingProtection ClassNe7 (case closed)Included in the PackageArsm Input Cable Set (Red & Black), 1x 5m V OUT Cable Set (Red & Black), 2x 3m Contact Cable Set (Blue & White), 1x 2.5m I OUT Cable Set (Black & Red), Power Cable, Ground Cable, Ethernet Cable, USB	Timing Accuracy	0.05% rdg ± 0.1 ms
Breaker Initiate Capacity   20 A, 300 V D C or AC <sub>peak</sub> Initiate current reading age   0-20A DC, 5 kHz     Power Supply   0-20A DC, 5 kHz     Power Supply   100-240 V, 47/63 Hz     Internal Memory   Ves     Communication   Ves     Post Supply   0MP Software     Display   0MP Software     Display   16.9 × 12.9 × 3.9" (429 × 328 × 236) mm     Weight   0.7 kg     Temperature   Vorking : -10° Cto +60° C; Storage: -30° Cto +70° C     Humidity   95 % RH Non-condensing     Protection Class   Ver Class Clas	Contact detection	Yes
Breaker Initiate Capacity   20 A, 300 V D C or AC <sub>peak</sub> Initiate current reading age   0-20A DC, 5 kHz     Power Supply   0-20A DC, 5 kHz     Power Supply   100-240 V, 47/63 Hz     Internal Memory   Ves     Communication   Ves     Post Supply   0MP Software     Display   0MP Software     Display   16.9 × 12.9 × 3.9" (429 × 328 × 236) mm     Weight   0.7 kg     Temperature   Vorking : -10° Cto +60° C; Storage: -30° Cto +70° C     Humidity   95 % RH Non-condensing     Protection Class   Ver Class Clas	Trigger input voltage	24 – 300 V DC or AC <sub>peak</sub>
range   D = 20A DC, S KH2     GENERAL FEATURES     GENERAL FEATURES     Power Supply   100-240 V, 47/63 Hz     Internal Memory   Yes     Communication   USB 2.0/1.1 Standard-B, Ethernet     Dos Software   DMP Software     Display   7-inch IPS 1024x600 pixel touch panel display     Dimensions   (16.9 × 12.9 × 9.3)" (429 × 328 × 236) mm     Weight   0.70 kg     Temperature   Working : -10°C to +60°C; Storage: -30°C to +70°C     Humidity   95% RH Non-condensing     Protection Class   IP67 (case closed)     Avs 5m Input Cable Set (Red & Black), 1x 5m V OUT Cable Set (Red & Black), 2x 3m Contact Cable Set (Black & Red), Power Cable, Ground Cable, Ethernet Cable, VSB	Breaker Initiate Capacity	
Power Supply100-240 V, 47/63 HzInternal MemoryYesCommunicationUSB 2.0/1.1 Standard-B, EthernetPC SoftwareDMP SoftwareDisplay7-inch IPS 1024x600 pixel touch panel displayDimensions(16.9 × 12.9 × 9.3)" (429 × 328 × 236) mmWeight10.70 kgTemperatureWorking : -10 °C to +60 °C; Storage: -30 °C to +70 °CHumidity95% RH Non-condensingProtection ClassIP67 (case closed)Included in the PackageXosm Input Cable Set (Red & Black), 1x 5m V OUT Cable Set (Red & Black), 2x 3m Contact Cable Set Blue & White), 1x 2.5m I OUT Cable Set (Black & Red), Power Cable, Ground Cable, Ethernet Cable, USB	-	0 – 20A DC, 5 kHz
Internal MemoryYesCommunicationUSB 2.0/1.1 Standard-B, EthernetPC SoftwareDMP SoftwareDisplay7-inch IPS 1024x600 pixel touch panel displayDimensions(16.9 × 12.9 × 9.3)" (429 x 328 x 236) mmWeight10.70 kgTemperatureWorking : -10 °C to +60 °C; Storage: -30 °C to +70 °CHumidity95% RH Non-condensingProtection ClassIP67 (case closed)Ax 5m Input Cable Set (Red & Black), 1x 5m V OUT Cable Set (Red & Black), 2x 3m Contact Cable Set (Blue & White), 1x 2.5m I OUT Cable Set (Black & Red), Power Cable, Ground Cable, Ethernet Cable, USB		GENERAL FEATURES
CommunicationUSB 2.0/1.1 Standard-B, EthernetPC SoftwareDMP SoftwareDisplay7-inch IPS 1024x600 pixel touch panel displayDimensions(16.9 × 12.9 × 9.3)" (429 × 328 × 236) mmWeight10.70 kgTemperatureWorking : -10 °C to +60 °C; Storage: -30 °C to +70 °CHumidity95% RH Non-condensingProtection ClassIP67 (case closed)Included in the Package4x 5m Input Cable Set (Red & Black), 1x 5m V OUT Cable Set (Red & Black), 2x 3m Contact Cable Set (Black & Red), Power Cable, Ground Cable, Ethernet Cable, USB	Power Supply	100-240 V, 47/63 Hz
PC SoftwareDMP SoftwareDisplay7-inch IPS 1024x600 pixel touch panel displayDimensions(16.9 × 12.9 × 9.3)" (429 x 328 x 236) mmWeight10.70 kgTemperatureWorking: -10°C to +60°C; Storage: -30°C to +70°CHumidity95% RH Non-condensingProtection ClassIP67 (case closed)Included in the Package4x 5m Input Cable Set (Red & Black), 1x 5m V OUT Cable Set (Red & Black), 2x 3m Coable, Ethernet Cable, USB	Internal Memory	Yes
Display7-inch IPS 1024x600 pixel touch panel displayDimensions(16.9 × 12.9 × 9.3)" (429 x 328 x 236) mmWeight10.70 kgTemperatureWorking : -10°C to +60°C; Storage: -30°C to +70°CHumidity95% RH Non-condensingProtection ClassIP67 (case closed)Included in the Package4x 5m Input Cable Set (Red & Black), 1x 5m VOUT Cable Set (Red & Dave Cable, Ground Cable, Ethernet Cable, USB)	Communication	USB 2.0/1.1 Standard-B, Ethernet
Dimensions(16.9 × 12.9 × 9.3)" (429 x 328 x 236) mmWeight10.70 kgTemperatureWorking : -10 °C to +60 °C; Storage: -30 °C to +70 °CHumidity95% RH Non-condensingProtection ClassIP67 (case closed)Av 5m Input Cable Set (Red & Black), 1x 5m V OUT Cable Set (Red & Black), 2x 3m Contact Cable Set (Blue & White), 1x 2.5m I OUT Cable Set (Black & Red), Power Cable, Ground Cable, Ethernet Cable, USB	PC Software	DMP Software
Weight10.70 kgTemperatureWorking: -10 °C to +60 °C; Storage: -30 °C to +70 °CHumidity95% RH Non-condensingProtection ClassIP67 (case closed)Ax 5m Input Cable Set (Red & Black), 1x 5m V OUT Cable Set (Red & Black), 2x 3m Contact Cable Set (Blue & White), 1x 2.5m I OUT Cable Set (Black & Red), Power Cable, Ground Cable, Ethernet Cable, USB	Display	7-inch IPS 1024x600 pixel touch panel display
TemperatureWorking: -10 °C to +60 °C; Storage: -30 °C to +70 °CHumidity95% RH Non-condensingProtection ClassIP67 (case closed)Ax 5m Input Cable Set (Red & Black), 1x 5m V OUT Cable Set (Red & Black), 2x 3m Contact Cable Set (Blue & White), 1x 2.5m I OUT Cable Set (Black & Red), Power Cable, Ground Cable, Ethernet Cable, USB	Dimensions	(16.9 × 12.9 × 9.3)" (429 × 328 × 236) mm
Humidity   95% RH Non-condensing     Protection Class   IP67 (case closed)     Ax 5m Input Cable Set (Red & Black), 1x 5m V OUT Cable Set (Red & Black), 2x 3m Contact Cable Set (Blue & White), 1x 2.5m I OUT Cable Set (Black & Red), Power Cable, Ground Cable, Ethernet Cable, USB	Weight	10.70 kg
Protection Class   IP67 (case closed)     Ax 5m Input Cable Set (Red & Black), 1x 5m V OUT Cable Set (Red & Black), 2x 3m Contact Cable Set (Blue & White), 1x 2.5m I OUT Cable Set (Black & Red), Power Cable, Ground Cable, Ethernet Cable, USB	Temperature	Working : -10 °C to +60 °C; Storage: -30 °C to +70 °C
Ax 5m Input Cable Set (Red & Black), 1x 5m V OUT Cable Set (Red & Black), 2x 3m Contact Cable Set (Blue & White), 1x 2.5m I OUT Cable Set (Black & Red), Power Cable, Ground Cable, Ethernet Cable, USB	Humidity	95% RH Non-condensing
Included in the Package (Blue & White), 1x 2.5m I OUT Cable Set (Black & Red), Power Cable, Ground Cable, Ethernet Cable, USB	Protection Class	IP67 (case closed)
	Included in the Package	4x 5m Input Cable Set (Red & Black), 1x 5m V OUT Cable Set (Red & Black), 2x 3m Contact Cable Set (Blue & White), 1x 2.5m I OUT Cable Set (Black & Red), Power Cable, Ground Cable, Ethernet Cable, USB flash drive, Instruction Manual (Soft Copy), DMP Software, Cable Bag

Specifications are valid at/under 25 °C temperature. \*Content subject to change without notice.

## **ORDERING INFORMATION**

## ACCESSORIES



5m Measurement Cable Set, IN 1 Part: IN-MEAS-SET Ordering Code: 71910



5m Measurement Cable Set, IN 2 Part: IN-MEAS-SET Ordering Code: 71910



5m Measurement Cable Set, IN 3 Part: IN-MEAS-SET Ordering Code: 71910



5m Measurement Cable Set, IN 4 Part: IN-MEAS-SET Ordering Code: 71910



5m Contact Out Cable Set, C OUT 1 Part: CON-OUT Ordering Code: 71911



5m Contact Out Cable Set, C OUT 2 Part: CON-OUT Ordering Code: 71911



5 m V Out Cable Set, V OUT Part: V OUT Ordering Code: 71912



2.5m I Out Cable Set, I OUT Part: I OUT Ordering Code: 71913



2.5m Grounding Cable & Crocodile Clip Part: GC-01 Ordering Code: 90120



1.8m Power Cord (EU/US/UK) Part: PWC-01(EU)/02 (US)/03 (UK) Ordering Code: 90110/90113/90115



32 GB USB Flash Part: USB-02 Ordering Code: 90131



1 pcs Cable Carry Bags Part: SCB-03 Ordering Code: 90162



1.5m Ethernet Cable Part: ETH-01 Ordering Code: 901312



SOFT

C C



Part: HARD CASE Ordering Code: 90999

### **CONTACT US**

#### HIGHTEST TECHNOLOGY LIMITED

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