TECHNICAL SPECS OF CST-222

GENERAL TECHNICAL SPECIFICATIONS

Power supply	2x AA battery Alkaline (LR6) or NiMH (HR6)
Battery life (typical)	>100 h
Ingress protection	IP 40 on housing IP 20 on 4 mm test sockets
Mass	1.3 kg
Size without cable assembly (W × L × D)	117 × 210 × 45 mm
Input test voltage	Max. 250 VAC (single phase) / 480 VAC (3 phase) 50/60 Hz, max. load current 1 A if not otherwise specified
Measurement category	CAT II 300 V
Protection classification	Class II
Pollution degree	2
Referential temp./humidity range	+23 °C ± 5 °C
Working temp. range	-10 ... 40 °C
Storage temp. range	-20 ... 50 °C
Referential humidity range	30 ... 50 %
Working humidity range	5 ... 85 % (w/o condensation)
Storage humidity range	< 85 % (w/o condensation)
Max. altitude	2000 m
Display	2.4-inch reflective LCD, 128x64 pixels
Auto power off	5 min

FUNCTIONS

PE Pre-test

Indication of present voltage on PE	>50 V

User must have a sufficient connection to ground reference for this function to work properly.

Mains voltage presence detection (Phase voltages L1/PE, L2/PE, L3/PE)

Indication of present voltage	>100 V
Connection to mains	AC coupled
Input resistance	4 MΩ

Mains voltage measurement (Phase voltages L1/N, L2/N, L3/N and neutral voltage N/PE)

Display/measuring range	280 V within 40 ... 70 Hz
Connection to mains	AC coupled
Resolution	1 V
Accuracy	± (2 % + 3 D)
Crest factor	2
Input resistance	4 MΩ from L1/L2/L3/N to PE 8 MΩ from L1/L2/L3 to N

Mains frequency measurement

Display/measuring range	40.0 ... 70.0 Hz
Resolution	0.1 Hz
Accuracy	± 2 D
Voltage condition	100 ... 280 V on any Lx to N

Mains state indication

Displayed mains conditions	Three-phase sequence – left orientation Three-phase sequence – right orientation Three-phase sequence – undefined orientation Lx and N switched
Three-phase sequence left/right voltage condition	100 ... 280 V on all Lx to N
Three-phase sequence left/right phase imbalance	120° ± 10 %

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Three-phase sequence left/right voltage imbalance	< ± 20 % voltage difference between Lx/N
Lx and N switched voltage condition	100 … 280 V on any Lx to N 100 … 280 V on N to PE <100 V on all Lx to PE

CP Voltage

Display/measuring range (positive and negative voltage measurements separated)	± (0.50 … 15.00 V)
Resolution	0.01 V
Accuracy (0.50 … 2.00)	± (0.5 % + 3 D)
Accuracy (2.01 … 15.00)	± 0.5 %
Frequency condition	DC or 900.0 … 1100.0 Hz
Duty cycle condition	DC or 3.0 … 97.0 %

CP Frequency

Display/measuring range	900.0 … 1100.0 Hz
Accuracy	±0.1 %

CP Duty cycle

Display range	2.0 … 98.0 %
Measuring range	3.0 … 97.0 %
Accuracy	±5 D
Frequency condition	900.0 … 1100.0 Hz

CP Maximum current

Calculated from **CP Duty cycle**	Based on Table A.8, IEC 61851-1:2017

CP Voltage state indication

Calculated from **CP Voltage**	Based on Table A.4, IEC 61851-1:2017

“CP state” switch positions

A – EV in standby (EV not connected)	>1 MΩ
B – EV connected, not ready to charge	2740 Ω ± 2 %
C – EV ready to charge, no ventilation	882 Ω ± 2 %
D – EV ready to charge, ventilation required	246 Ω ± 2 %
E – Error state (on diode’s cathode)	<30 Ω

“PP state” switch positions (cable ampacity selection)

NC – EV not connected	>1 MΩ
13 A	1500 Ω ± 2 %
20 A	860 Ω ± 2 %
32 A	220 Ω ± 2 %
63 A	100 Ω ± 2 %
Error	<30 Ω

Error simulations

E button – CP error state (on diode’s anode)	<30 Ω from CP to PE when pressed
PE button – PE open error	>1 MΩ from CP to PE when pressed
Diode short button	<1 Ω over diode when pressed

Mains test socket

Max. current	10 A
Max current flow time on/off ratio	1/3
Max time on	0,5 h
Protection	T10 A / 250 V(H), 5 x 20 mm

Reference temperature for all specifications is +23 °C ± 5 °C with a temperature coefficient of 0.05%/°C when outside of the specified reference temperature.

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