

MCTS HIGH PRECISION MULTI CHANNEL CURRENT TRANSDUCER SYSTEM

- Three to Six Channels
- Models from 60 A_{rms} to 1000 A_{rms}
- High Linearity
- Low Offset
- Wide Bandwidth
- Low Phase Error



Specifications

Transducer Specifications

MCTS Model	MCTS 60	MCTS 200	MCTS 400	MCTS 700	MCTS 1000
Transducer	IT 60-S 	IT 200-S 	IT 400-S 	IT 700-S 	IT 1000-S/SP1 
Primary Current Range I_p DC, RMS Sinus	60 A	200 A	400 A	700 A	1000 A
Overload Ability Short Time (100 mS)	300 A _{pk}	1000 A _{pk}	2000 A _{pk}	3500 A _{pk}	4000 A _{pk}
Max. burden resistor (100 % of I_p)	10 Ω	10 Ω	2.5 Ω	2.5 Ω	2.5 Ω
di/dt (accurately followed)	> 25 A/μs	> 100 A/μs	> 100 A/μs	> 100 A/μs	> 100 A/μs
Temperature Influence	< 2.5 ppm/K	< 2 ppm/K	< 1 ppm/K	< 1 ppm/K	< 1 ppm/K
Output Ratio	100 mA at 60 A	200 mA at 200 A	200 mA at 400 A	400 mA at 700 A	1 A at 1000 A
Bandwidth (0.5 % of I_p)	DC ... > 800 kHz	DC ... > 500 kHz	DC ... > 500 kHz	DC ... > 250 kHz	DC ... > 500 kHz
Linearity	< 0.002 %	< 0.001 %	< 0.001 %	< 0.001 %	< 0.001 %
Offset	< 0.025 %	< 0.008 %	< 0.004 %	< 0.005 %	< 0.005 %
Frequency Influence	< 0.04 %/kHz	< 0.06 %/kHz	< 0.06 %/kHz	< 0.12 %/kHz	< 0.06 %/kHz
Angular Accuracy	< 0.025 ° + 0.06 °/kHz	< 0.025 ° + 0.05 °/kHz	< 0.025 ° + 0.09 °/kHz	< 0.025 ° + 0.18 °/kHz	< 0.025 ° + 0.09 °/kHz
Rated isolation voltage rms, single isolation CAT III, Pollution deg. 2 IEC 61010-1 standards EN 50178 standards	2000 V 1000 V	2000 V 1000 V	2000 V 1000 V	1600 V 1000 V	300 V 300 V
Test voltage 50/60 Hz, 1 min	5.4 kV	5.4 kV	5.4 kV	4.6 kV	3.1 kV
Inner diameter	26 mm	26 mm	26 mm	30 mm	30 mm

Dimensions

Rack:
 Cabinet Width: 19" (447 mm)
 Cabinet Height: 3 HU (132 mm)
 Cabinet Depth: 256 mm
 Cabinet Weight: 6.5 kG (6 CH Unit)

Transducers:
 See Transducer datasheets IT 60-S ... IT 1000-S/SP1



Front Panel




Rear Panel

General Data

MCTS Input Voltage: 100 ... 240 V / 650 mA AC, 47 ... 63 Hz
 Operation temperature: 10 ... 50 °C
 Operation humidity: 20 ... 80%
 Warranty period: 36 months

Optional Voltage Output (Plug-On Shunts)

MCTS/BR1: 1A/1Ω/1W Shunt (for MCTS 1000) Amplitude Accuracy: 0.1% Angular Accuracy: 1° at 100 kHz Frequency Range: 300 kHz / 0.5 dB	MCTS/BR10: 100mA/10Ω/0.1W Shunt (for MCTS 60) Amplitude Accuracy: 0.05% Angular Accuracy: 1° at 100 kHz Frequency Range: 300 kHz / 0.5 dB	
MCTS/BR2.5: 400mA/2.5Ω/0.4W Shunt (for MCTS 400/700) Amplitude Accuracy: 0.05% Angular Accuracy: 1° at 100 kHz Frequency Range: 300 kHz / 0.5 dB	Resulting Ratio: MCTS 60 with MCTS/BR10: 16.667 mV/A MCTS 200 with MCTS/BR5: 5.0000 mV/A MCTS 400 with MCTS/BR2.5: 1.2500 mV/A MCTS 700 with MCTS/BR2.5: 1.4286 mV/A MCTS 1000 with MCTS/BR1: 1.0000 mV/A	
MCTS/BR5: 200mA/5Ω/0.2W Shunt (for MCTS 200) Amplitude Accuracy: 0.05% Angular Accuracy: 1° at 100 kHz Frequency Range: 300 kHz / 0.5 dB		

4 mm Input – BNC Output

Order Numbers

Nominal Current Range	Basic Three Channel System	Additional Current Channel	Optional Shunt
60 A (Transducer IT 60-S)	MCTS 60	CM 60	MCTS/BR10
200 A (Transducer IT 200-S)	MCTS 200	CM 200	MCTS/BR5
400 A (Transducer IT 400-S)	MCTS 400	CM 400	MCTS/BR2.5
700 A (Transducer IT 700-S)	MCTS 700	CM 700	MCTS/BR2.5
1000 A (Transducer IT 1000-S/SP1)	MCTS 1000	CM 1000	MCTS/BR1
	consisting of: - MCTS Electronics Rack - 3 internal Power Supplies - 3 IT Current Transducers - 3 Connection Cables 10 m - Power Cord	consisting of: - 1 internal Power Supply - 1 IT Current Transducer - 1 Connection Cable 10 m	consisting of: - 1 Plug-On Shunt