

TRION-2402-dACC

- Sampling:
- Input types:
- Additional feature:

Differential multi-function input module

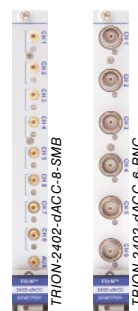
24 bit; 204.8 kS/s per channel

Voltage measurement from ± 30 mV to ± 70 V_{DC} (46.7 V_{RMS} AC) IEPE

Resistance

Current (using external shunt)

AUX socket



TRION-dACC specifications					
Input channels	8 using SMB sockets (TRION-2402-dACC-8-SMB) 6 using BNC sockets (TRION-2402-dACC-6-BNC)				
AUX socket (SMB version)	Selectable: Camera trigger, external trigger, CAL-port				
Sampling rate	204.8 kS/s per channel				
Resolution	24 bit				
Rated input voltage (max.)	70 V _{DC} (46.7 V _{RMS})				
Input ranges					
Voltage	± 30 , ± 100 , ± 300 mV, ± 1 , ± 3 V, ± 10 V, ± 30 V, ± 100 V				
IEPE®	± 100 , 300 mV, 1 V, 3 V, 10 V				
Resistance	10, 30, 100, 300 Ω , 1, 3, 10, 30, 100, 300, 1000 k Ω				
Current	Depending on external Shunt				
Voltage input accuracy	± 0.02 % of reading ± 0.02 % of range ± 200 μ V				
Gain drift	typical 10 ppm/°C max. 20 ppm/°C				
Offset drift	typical 0.3 μ V/°C + 10 ppm of range, max 15 μ V/°C + 20 ppm of range/°C				
linearity	typical 0.01 %				
Input impedance					
Range ≤ 10 V	10 M Ω				
Range > 10 V	2 M Ω				
Input bias current	< 1 nA				
Input configuration	Single ended or differential (programmable)				
Input coupling	DC, AC (0.16 Hz, 0.5 Hz, 3.4 Hz, 10 Hz)				
Sensor fault detection for IEPE®	short circuit and open sensor detection with LED indication				
Excitation current	0.1 to 24 mA _{DC} (programmable, 16 Bit DAC, 2 Ranges)				
Accuracy	0.05% ± 2 μ A				
Drift	15 ppm/°C				
Compliance voltage	23 V				
Output impedance	> 10 M Ω				
Supported sensors	IEPE® (up to 24 mA excitation) Resistance Resistance Temperature Detection: Pt100, Pt200, Pt500, Pt1000, Pt2000				
Counter Channels	2 Counter channels, linked to analog input Channel 1 and Channel 2				
Counter modes	Event counting; Period; Frequency; Pulsewidth; Duty cycle				
Trigger Level	Trigger and retrigger level freely programmable within analog input range				
Counter input bandwidth	1 MHz				
Typical SNR	Range	100 mV	1 V	10 V	100 V
100 S/s $\leq f_s \leq 1$ kS/s		97 dB	111 dB	112 dB	112 dB
10 kS/s $< f_s \leq 102.4$ kS/s		87 dB	104 dB	107 dB	104 dB
102.4 kS/s $< f_s \leq 200$ kS/s		80 dB	81 dB	81 dB	81 dB
Spurious free dynamic range range		10 mV	100 mV	1 V	10 V
100 S/s $\leq f_s \leq 1$ kS/s		124 dB	139 dB	140 dB	139 dB
10 kS/s $< f_s \leq 102.4$ kS/s		118 dB	134 dB	134 dB	134 dB
102.4 kS/s $< f_s \leq 200$ kS/s		116 dB ¹⁾ / 110 dB	131 dB ¹⁾ / 112 dB	132 dB ¹⁾ / 110 dB	131 dB ¹⁾ / 112 dB
Typical CMRR	≤ 10 V Range	100 dB @ 50 Hz	100 dB @ 1 kHz		
	> 10 to 200 V Range	90 dB @ 50 Hz	70 dB @ 1 kHz		
Analog anti aliasing filter	2 nd order Bessel, automatically set by sample rate				
Sample rate ≤ 1 kS/s	2.5 kHz (-3 dB), 1.5 kHz (-1 dB)				
Sample rate ≤ 10 kS/s	25 kHz (-3 dB), 15 kHz (-1 dB)				
Sample rate > 10 kS/s	250 kHz (-3 dB), 150 kHz (-1 dB)				
Bandwidth (-3 dB digital filter)					
1 kS/s $\leq f_s \leq 51.2$ kS/s	0.494 fs				
51.2 kS/s $< f_s \leq 102.4$ kS/s	0.49 fs				
102.4 kS/s $< f_s \leq 204.8$ kS/s	0.38 fs				
Crosstalk fin 1 kHz [10 kHz]	120 dB [105 dB]				
Channel to channel phase mismatch	< 60 nsec between channels using the same range				
Common mode voltage	± 200 V _{DC} (input range > 10 V), ± 12 V _{DC} (input range ≤ 10 V)				

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¹⁾ For safety reasons maximum allowed voltage: 70 V_{DC} (46.7 V_{RMS} AC)

Over voltage protection	200 V peak input to GND
Supported TEDS chips	DS2406, DS2430A, DS2431, DS2432, DS2433
Power consumption ²⁾	
Voltage mode; no excitation	6 W
IEPE® mode 4 mA	6.5 W
IEPE® mode 16 mA	9.5 W
IEPE® mode 24 mA	11.4 W
Weight	Appr. 210 g (SMB version), appr.270 g (BNC version)
¹⁾ below 0.22 fs	
²⁾ Consider maximum power supply of your DEWE2 chassis.	

Cables for TRION-2402-dACC modules

TRION cables				
	Connector	Termination	Length	TRION modules
TRION-CBL-SMOE-05-00	SMB	open end	5 m	TRION-x-dACC-x-SMB
TRION-CBL-SMBN-01-00	SMB	BNC cable socket	1 m	TRION-x-dACC-x-SMB

