

Traq-20 MFC Multifunction Calibrator

- ✓ **Accuracy from 0.0025%rdg + 0.002%FS**
- ✓ **Measure, source and simulate mA, mV, V, ohms, frequency, RTDs and thermocouples**
- ✓ **HART communication**
- ✓ **Easy-to-use, with photo quality touch screen**
- ✓ **Indicator, recorder and controller testing**
- ✓ **Process loop set up and diagnostics**
- ✓ **Switch, trip and safety system testing**
- ✓ **6HU 2WU Benchtop mounted**



This Multifunction platform provides, electrical, frequency and temperature calibrations.

The instrument is capable in simultaneous measure and sourcing these quantities.

Our core values are quality, service and keeping our knowledge up to date with the latest technical innovations, to find the best solutions for our customers.



Technical Specifications

General Specifications

Display	Size: 110 mm (4.3 in) diagonal; 480 x 272 pixels LCD: Colour display with touch-screen
Languages	English (Default)
Operating temperature	-10° to 50°C (14° to 122°F)
Storage temperature	-20° to 70°C (-4° to 158°F)
EMC	Electromagnetic compatibility: BS EN 61326-1:2006
Electrical safety	Electrical – BS EN 61010 : 2001
Pressure safety	Pressure Equipment Directive - Class: Sound Engineering Practice (SEP)
Approved	CE Marked

Electrical Measurement and Source

		NLH&R ±1°C (2°F) for 24 hrs (note 1)		Total Uncertainty 10° to 30°C (50° to 86°F) for 1 year (note 3)		Additional error -10° to 10°C (14° to 50°F) 30° to 50°C (86° to 122°F)		Resolution	Display reading window			
		%Rdg	+ %FS	%Rdg	+ %FS	%Rdg/°C	+ %FS/°C					
Measure mode												
DC Voltage	Thermocouple	Please refer to Thermocouple specification table									CH1	
	TC mode -10 to 100 mV	0.0045	0.008	0.007	0.01	0	0.0005	0.001	CH1			
	0 to 200 mV	0.0045	0.004	0.007	0.005	0	0.0005	0.001	CH1	CH2		
	0 to 2000 mV	0.004	0.003	0.007	0.005	0	0.0005	0.01	CH1	CH2		
	0 to 20 V	0.0025	0.002	0.01	0.002	0	0.0005	0.00001	CH1	CH2		
AC Voltage (note 2)	0 to 30 V	0.0035	0.0035	0.01	0.004	0	0.0005	0.0001	CH1	CH2		
	0 to 2000 mVAC	0.125	0.125	0.2	0.15	0.005	0.005	0.1	CH1			
	0 to 20 VAC	0.1255	0.125	0.2	0.15	0.005	0.005	0.001	CH1			
Current	0 to 300 VAC	1	0.06	1.5	0.1	0.1	0.05	0.01	CH1			
	0 to 20 mA	0.006	0.005	0.012	0.006	0	0.0005	0.0001	CH1	CH2		
Resistance (4 wire)	0 to 55 mA	0.005	0.005	0.016	0.005	0	0.0005	0.0001	CH1	CH2		
	RTD	Please refer to RTD specification table									CH1	
	0 to 400 Ω	0.012	0.005	0.015	0.006	0	0.0005	0.001	CH1			
Frequency	0 to 4000 Ω	0.0115	0.0045	0.015	0.006	0	0.0005	0.01	CH1			
	0 to 1000 Hz	0.0003	0.0002	0.003	0.0002			0.0001	CH1			
	1 kHz to 50 kHz	0.0003	0.0004	0.003	0.0004			0.00001	CH1			
	0 to 999999 CPM	Refer to equivalent frequency							0.01	CH1		
	0 to 999999 CPH	Refer to equivalent frequency							0.01	CH1		
Pressure	Trigger level	Automatic and adjustable 0 to 20V							0.1			
	25 mbar to 1000 bar (0.35 psi tot 15000 psi)	Please refer to PM 620 pressure range table									P1	P2
	IDOS external module	Please refer to IDOS UPM datasheet. Cable P/N IO620-IDOS-USB required									IDOS	
	USB port	Please refer to GE Sensing for compatible devices									USB	
Source mode												
DC Voltage	TC mode	Please refer to Thermocouple specification table										
	TC mode -10 to 100 mV	0.009	0.008	0.014	0.01	0	0.0005	0.001	CH1			
	0 to 200 mV	0.0045	0.004	0.007	0.005	0	0.0005	0.1	CH1			
	0 to 2000 mV	0.004	0.003	0.007	0.005	0	0.0005	0.1	CH1			
	0 to 12 V	0.006	0.0035	0.01	0.0035	0	0.0005	0.001	CH1			
Current	0 to 24 mA	0.01	0.004	0.015	0.005	0	0.0005	0.001	CH1	CH2		
	0 to 24 mA (24 V loop power)	0.01	0.004	0.015	0.005	0	0.0005	0.001		CH2		
	24 V loop power	24 V ±10%										
Resistance	RTD	Please refer to RTD specification table									CH1	
	0 to 400 Ω (0.1mA)	0.024	0.0035	0.03	0.0075	0	0.0005	0.01	CH1			
	0 to 400 Ω (0.5mA)	0.004	0.0025	0.008	0.003	0	0.0005	0.01	CH1			
	400 to 2000 Ω (0.05mA)	0.048	0.0035	0.06	0.006	0	0.0005	0.01	CH1			
	2k to 4 kΩ (0.05mA)	0.048	0.0035	0.06	0.0045	0	0.0005	0.01	CH1			
Frequency	Maximum input current	0-400 Ω 5 mA, 400-2000 Ω 1mA, 2000-4000 Ω 0.5 mA										
	0 to 1000 Hz	0.0003	0.00023	0.003	0.00023			0.1	CH1			
	1kHz to 50 kHz	0.0003	0.000074	0.003	0.000074			0.001	CH1			
	Output waveform	Square, positive swing up to 12V (adjustable), negative swing -80mV (fixed) Sine and Triangular, adjustable amplitude and offset within the limits -2.5 to +12 V										
	Square wave peak output	0 to 12 V +/-20mV (10 mA maximum)										
	0 to 99999 CPM	Please refer to equivalent frequency							1	CH1		
	0 to 99999 CPH	Please refer to equivalent frequency							1	CH1		

RTD Measurement and Simulation

Type	Standard	Temperature range (range shows correct resolution)				Total Uncertainty 10° to 30°C (50° to 86°F) for 1 year				Reso- lution
		°C		°F		*Measure		**Simulate		
		From	To	From	To	°C	°F	°C	°F	
Pt 50	IEC 751 (385)	-200.00	0.00	-328.00	32.00	0.20	0.36	0.30	0.54	0.01
		0.00	850.00	32.00	1562.00	0.30	0.54	0.50	0.90	0.01
Pt 100	IEC 751 (385)	-200.00	0.00	-328.00	32.00	0.14	0.25	0.22	0.40	0.01
		0.00	760.00	32.00	1400.00	0.25	0.45	0.40	0.72	0.01
		760.00	850.00	1400.00	1562.00	0.80	1.44	1.00	1.80	0.01
Pt 100	(392)	-200.00	0.00	-328.00	32.00	0.13	0.23	0.22	0.40	0.01
		0.00	760.00	32.00	1400.00	0.25	0.45	0.38	0.68	0.01
		760.00	850.00	1400.00	1562.00	0.80	1.44	1.00	1.80	0.01
Pt 200	IEC 751 (385)	-200.00	0.00	-328.00	32.00	0.10	0.18	0.18	0.32	0.01
		0.00	260.00	32.00	500.00	0.11	0.20	0.20	0.36	0.01
		260.00	850.00	500.00	1562.00	0.50	0.90	0.82	1.48	0.01
Pt 500	IEC 751 (385)	-200.00	0.00	-328.00	32.00	0.20	0.36	0.34	0.61	0.01
		0.00	850.00	32.00	1562.00	0.30	0.54	0.80	1.44	0.01
Pt 1000	IEC 751 (385)	-200.00	0.00	-328.00	32.00	0.14	0.25	0.31	0.56	0.01
		0.00	400.00	32.00	752.00	0.17	0.31	0.45	0.81	0.01
D 100	JIS 1604-1989	-200.00	0.00	-328.00	32.00	0.10	0.18	0.16	0.29	0.01
		0.00	480.00	32.00	896.00	0.14	0.25	0.24	0.43	0.01
		480.00	650.00	896.00	1202.00	0.51	0.92	0.70	1.26	0.01
Ni 100	DIN 43760	-60.00	0.00	-76.00	32.00	0.07	0.13	0.12	0.22	0.01
		0.00	250.00	32.00	482.00	0.09	0.16	0.17	0.31	0.01
Ni 120	MINCO 7-120	-80.00	0.00	-112.00	32.00	0.07	0.13	0.15	0.27	0.01
		0.00	260.00	32.00	500.00	0.10	0.18	0.16	0.29	0.01
Cu 10		-200.00	0.00	-328.00	32.00	0.65	1.17	0.85	1.53	0.01
		0.00	260.00	32.00	500.00	0.65	1.17	0.85	1.53	0.01

Note 1: NLH&R (non-linearity, hysteresis and repeatability) specification applies when calibration temperature is between 10 and 30°C (50°F and 86°F).

Note 2: Specification applies between 10% and 100% of fullscale.

Multiple parameter display capability.

The display can be configured to show a maximum of 6 simultaneous reading windows as follows:

CH1, CH2,

P1, P2, IDOS, USB

Note 3: Total uncertainty includes reference standard uncertainty NLH & R and typical long term stability for one year (k=2)

* Applicable to 4 wire connection

** 0.1 mA min, 0-400 Ω and 0.05 mA min, 400-4000 Ω

Excitation current: Measure mode 0.5 mA, Source mode 0 to 400 Ω 5 mA max, 0.4 to 2kΩ 1 mA max and 2 to 4kΩ 0.5 mA max

Pulsed excitation current minimum duration 10 ms. Specifications relate to Traqc-20 MFC uncertainties only.

Thermocouple Measurement and Simulation

Type	Standard	Temperature range (range shows correct resolution)				Total Uncertainty 10° to 30°C (50° to 86°F) for 1 year		Resolution
		°C		°F		°C	°F	
		From	To	From	To			
B	IEC 584	250.00	500.00	482.00	932.00	4.00	7.20	0.01
		500.00	700.00	932.00	1292.00	2.00	3.60	0.01
		700.00	1200.00	1292.00	2192.00	1.50	2.70	0.01
		1200.00	1820.00	2192.00	3308.00	1.00	1.80	0.01
E	IEC 584	-270.00	-200.00	-454.00	-328.00	2.00	3.60	0.01
		-200.00	-120.00	-328.00	-184.00	0.50	0.90	0.01
		-120.00	1000.00	-184.00	1832.00	0.25	0.45	0.01
J	IEC 584	-210.00	-140.00	-346.00	-220.00	0.50	0.90	0.01
		-140.00	1200.00	-220.00	2192.00	0.30	0.54	0.01
K	IEC 584	-270.00	-220.00	-454.00	-364.00	4.00	7.20	0.01
		-220.00	-160.00	-364.00	-256.00	1.00	1.80	0.01
		-160.00	-60.00	-256.00	-76.00	0.50	0.90	0.01
		-60.00	800.00	-76.00	1472.00	0.30	0.54	0.01
L	DIN 43710	800.00	1370.00	1472.00	2498.00	0.50	0.90	0.01
		-200.00	-100.00	-328.00	-148.00	0.40	0.72	0.01
		-100.00	900.00	-148.00	1652.00	0.25	0.45	0.01
N	IEC 584	-270.00	-200.00	-454.00	-328.00	7.00	12.60	0.01
		-200.00	-40.00	-328.00	-40.00	1.00	1.80	0.01
		-40.00	1300.00	-40.00	2372.00	0.40	0.72	0.01
R	IEC 584	-50.00	360.00	-58.00	680.00	3.00	5.40	0.01
		360.00	1760.00	680.00	3200.00	1.00	1.80	0.01
S	IEC 584	-50.00	70.00	-58.00	158.00	3.00	5.40	0.01
		70.00	320.00	158.00	608.00	1.50	2.70	0.01
		320.00	660.00	608.00	1220.00	1.10	1.98	0.01
		660.00	1740.00	1220.00	3164.00	1.00	1.80	0.01
T	IEC 584	-270.00	-230.00	-454.00	-382.00	3.00	5.40	0.01
		-230.00	-50.00	-382.00	-58.00	1.00	1.80	0.01
		-50.00	400.00	-58.00	752.00	0.30	0.54	0.01
U	DIN 43710	-200.00	-50.00	-328.00	-58.00	0.60	1.08	0.01
		-50.00	600.00	-58.00	1112.00	0.30	0.54	0.01
C		0.00	1600.00	32.00	2912.00	0.80	1.44	0.01
		1600.00	2000.00	2912.00	3632.00	1.00	1.80	0.01
		2000.00	2300.00	3632.00	4172.00	1.40	2.52	0.01
D		0.00	100.00	32.00	212.00	1.10	1.98	0.01
		100.00	270.00	212.00	518.00	0.80	1.44	0.01
		270.00	1200.00	518.00	2192.00	0.60	1.08	0.01
		1200.00	1800.00	2192.00	3272.00	0.80	1.44	0.01

Specifications relate to Traqc-20 MFC uncertainties only.
 Cold Junction (CJ) Error (maximum)
 Range: 10 to 30°C (50 to 86°F) = 0.2°C (0.4°F)
 Add 0.01°C (0.02°F) CJ Error/° ambient temperature change for ranges:
 -10 to 10°C, 30 to 50°C (14 to 50°F, 86 to 122°F)

Distributor :