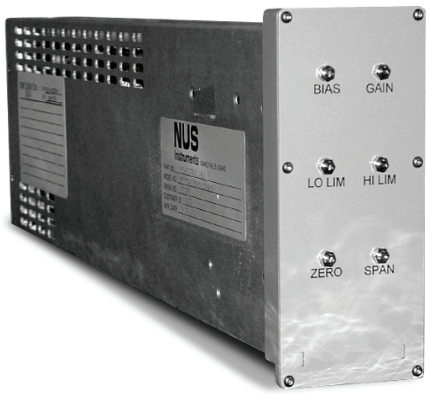
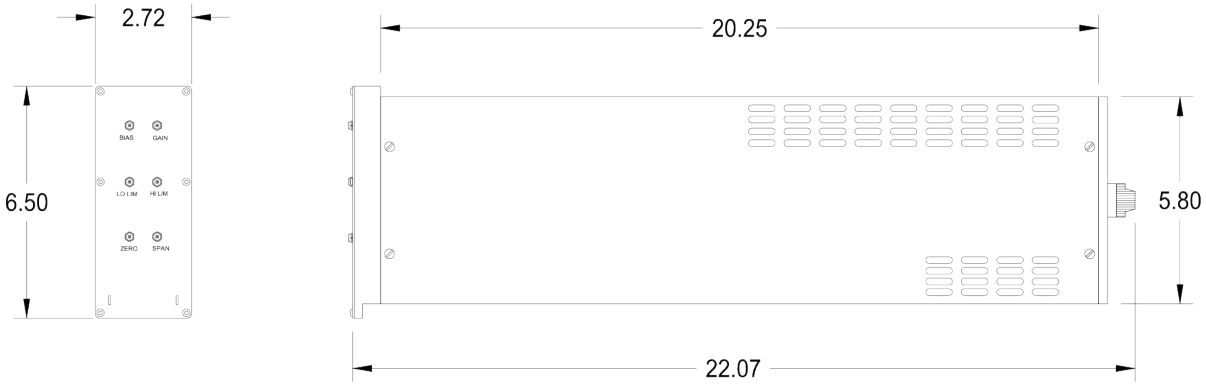
MTH700

The MTH700 Math Module replaces the obsolete Foxboro 62H and 66B summation style process control instruments, by offering multi-functional options through jumper-configurable selections and calibration adjustments on the main circuit board.

The MTH700 can function as a SUMMER, SUMMER with FEEDBACK, and LOW GAIN plus BIAS module. In the SUMMER configuration, it can accept up to four input signals plus an internally supplied constant value.



MTH700



SPECIFICATIONS

Power Supply Voltage:	85 Vac to 132 Vac, 47 to 440 Hz or 110 to 170 Vdc
Voltage Effects:	Less than 0.1% change in output for all the maximum power supply variations, cumulative
Power Consumption:	8 W (nominal), 12 W (maximum), 36 VA (maximum)
Time Response:	Less than 70 ms from the application of a step change at the input to a change in the Output (resistive load) of 63 % of the final value. (Filters and time functions bypassed or not in circuit)
Fuses:	Power: 5 A, normal blow or 2 A slow blow, 250 Vac, type 3AG
	Output: 0.250 A very fast blow
Ambient Temperature:	35 °F to 122 °F (2 °C to 50 °C) (normal operation)
	122 °F to 135 °F (50 °C to 57 °C) (abnormal operation for 200 hours)
	–40 °F to 175 °F (–40 °C to 80 °C) (storage)
Temperature Effects:	Less than 0.025% change of output full scale for each 1 °C change within operating limits. End to end module gain of less than 10 (0.030% for each1 °C change for divide and square root functions from 52 °C to 57 °C [125 °F to 135 °F])
Relative Humidity:	0% RH to 95% RH, non-condensing
	0% RH to 99% RH, non-condensing (storage)

SPECIFICATIONS — *continued*

Radiation Limits:	104 rad TID gamma over forty years
Credible Live Fault:	480 Vac or 140 Vdc at 20 A input to output, input to power, output to input, power to input
Electrical Qualification:	Plant protection, qualified to IEEE 323-1974/1983 and IEEE 344-1975/1987

HOW TO ORDER

The model number and configuration typically should be specified as follows:
Example: **MTH700-30/00/00/00-08-08**

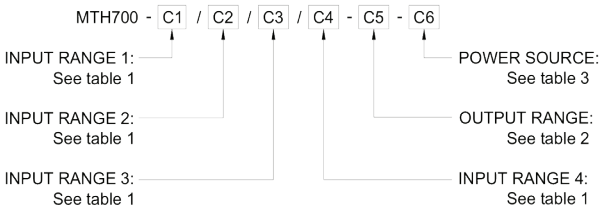


Table 1 — Input Range

Code	Input Range	Impedance Ω
00	Not Loaded	
01	0 to 100 mVdc	100 M
02	0 to 51 mVdc	100 M
03	0 to 1 Vdc	100 M
04	0 to 5 Vdc	100 M
05	1 to 5 Vdc	5.2 M
06	0 to 10 Vdc	400 k
07	4 to 20 mA dc	249
08	10 to 50 mA dc	100
09	0 to 1 mA dc	50
10	0 to 132 Vac	3.4 M
11	0 to 20 mA dc	249
12	0 to 50 mA dc	100
13	50 to 10 mA dc	100
14	Variable	1 M
15	0 to 8 Vdc	428 k
16	–10 to 10 Vdc	3.7 M
17	–2 to 15 Vdc	2.4 M
18	5 to 1 Vdc	100 M
19	3.6 to 11.6 Vdc	477 k
20	2 to 10 Vdc	427 k
21	–2 to 2 Vdc	3.5 M
22	–20 to 20 mA dc	249
23	N/A	
24	1 to 2 Vdc	3.2 M
25	0 to 4 Vdc	100 M
26	10 to 32.4 mA dc	200
27	4 to 10 mA dc	475
28	0 to 10 V (Hi-Z)	1013
29	0 to 120 Vdc	2.5 M
30	Group 1 Selectable	Varies
31	2, 4 or 10 Vdc	Varies
32	0 to 2 Vdc	100 M
33	0 to 3.45 Vdc	100 M
34	1.08 to 5.4 Vdc	5.2 M

Table 2 — Output Range

Code	Output Range	Impedance Ω
00	Not Loaded	
01	0 to 100 mVdc	32.9
02	0 to 51 mVdc	17.3
03	0 to 1 Vdc	299
04	0 to 5 Vdc	825
05	1 to 5 Vdc	825
06	0 to 10 Vdc	1000
07	4 to 20 mA dc	1050 *
08	10 to 50 mA dc	600 *
09	0 to 180 mA dc	59.3
10	0 to 3.5 Vac	825
11	0 to 20 mA dc	1050 *
12	0 to 50 mA dc	600 *
13	1 to 5 Vdc	249
14	10 to 44.29 mA dc	660 *
15	N/A	
16	0 to 1 mA dc	30 k *
17	4 to 22.49 mA dc	1050 *
18	10 to 56.22 mA dc	550 *

Table 3 — Power Source

Code	Power
00	Not Loaded
01	±15 ±1 Vdc
02	28 ±2 Vdc
03	5 ±0.25 Vdc
04	12 ±1 Vdc
05	15 ±1 Vdc
06	24 ±2 Vdc
07	48 ±2 Vdc
08	85 to 132 Vac, 125 Vdc

* These are not output impedances; these are the output drive capabilities of the current output models.

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