

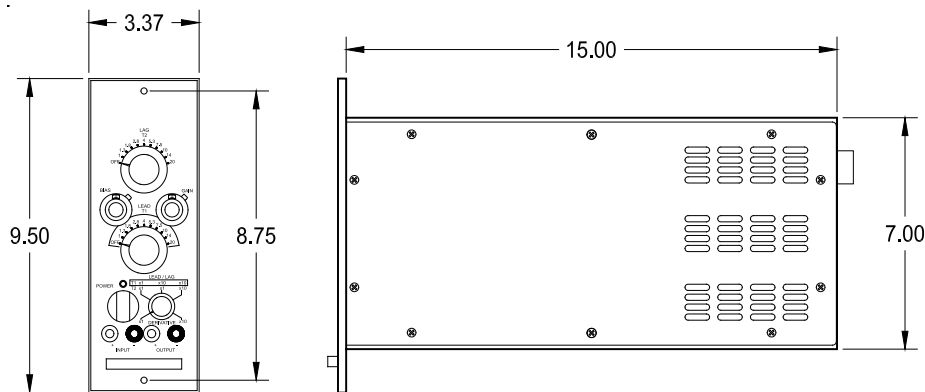
The TMD801 Lead/Lag & Derivative Controller replaces the obsolete Hagan 7100 controller, and can be used to perform several time domain functions. The TMD801 can be configured as a lead, lag, lead-lag, dynamic compensator, or computational module.

The TMD801 can utilize the Lead, Lag, Filter and Feedback Summer sections of the NUSI 800 Series master board assembly in various combinations to perform any of several different time-based functions.

Each circuit includes its own offset and timing adjustments. The Feedback Summer section includes individual gain settings to eliminate feedback oscillation, and an overall bias adjustment.



TMD801



### SPECIFICATIONS

Power Supply Voltage:	120 Vac RMS ( $\pm 10\%$ ), 60 Hz ( $\pm 5\%$ )
Power Consumption:	8 W typical, 12 W, 24 VA maximum
Accuracy:	$\pm 0.5\%$ of output span for span less than 50% of full scale $\pm 0.5\%$ of output full scale for span greater than 50% of full scale (Includes effects of linearity, repeatability, hysteresis, zero shift and span error)
Dielectric Withstand:	2500 Vdc and 1000 Vac (RMS) from input to output, input to case, input to power 750 Vdc and 500 Vac (RMS) from output to power
Credible Live Fault:	480 Vac, 140 Vdc at 20 A
Surge Withstand:	Using the waveform described in IEEE-472-1974
Temperature Effects:	Less than 0.07% change of output full scale for each 1 °C change in temperature from 2 °C to 13 °C (35 °F to 55 °F), and less than 0.05% output change from 13 °C to 57 °C (55 °F to 135 °F), for overall module gains less than 10
Electrical Qualification:	Plant protection, qualified to IEEE 323 1974/1983 and IEEE 344 1975/1987
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 185 °F (-40 °C to 85 °C) (storage)
Relative Humidity:	00% RH to 95% RH, non-condensing
Pressure:	Atmospheric
Radiation Limits:	10 <sup>4</sup> rad TID gamma over forty years

# NUSI 800 Series

## Lead/Lag & Derivative Controller

### HOW TO ORDER

The model number and configuration typically should be specified as follows:

Example: TMD801-04/00/00/00-07-08

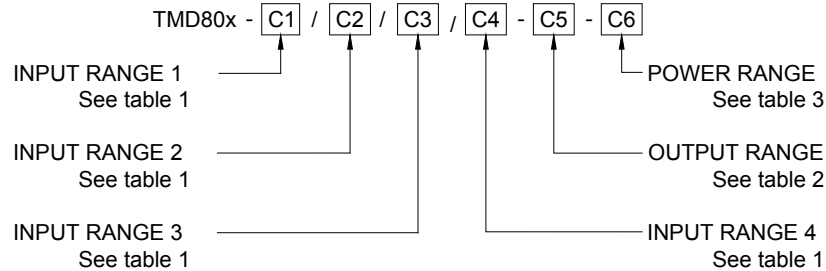


Table 1 — Input Range			Table 2 — Output Range		
Code	Input Range	Impedance $\Omega$	Code	Output Range	Impedance $\Omega$
00	Not Loaded		00	Not Loaded	
01	0 to 100 mVdc	100 M	01	0 to 100 mVdc	32.9
02	0 to 51 mVdc	100 M	02	0 to 51 mVdc	17.3
03	0 to 1 Vdc	100 M	03	0 to 1 Vdc	299
04	0 to 5 Vdc	100 M	04	0 to 5 Vdc	825
05	1 to 5 Vdc	5.2 M	05	1 to 5 Vdc	825
06	0 to 10 Vdc	400 k	06	0 to 10 Vdc	1000
07	4 to 20 mA dc	249	07	4 to 20 mA dc	1050 *
08	10 to 50 mA dc	100	08	10 to 50 mA dc	600 *
09	0 to 1 mA dc	50	09	0 to 180 mA dc	59.3
10	0 to 132 Vac	3.4 M	10	0 to 3.5 Vac	825
11	0 to 20 mA dc	249	11	0 to 20 mA dc	1050 *
12	0 to 50 mA dc	100	12	0 to 50 mA dc	600 *
13	50 to 10 mA dc	100	13	1 to 5 Vdc	249
14	Variable	1 M	14	10 to 44.29 mA dc	660 *
15	0 to 8 Vdc	428 k	15	N/A	
16	-10 to 10 Vdc	3.7 M	16	0 to 1 mA dc	30 k *
17	-2 to 15 Vdc	2.4 M	17	4 to 22.49 mA dc	1050 *
18	5 to 1 Vdc	100 M	18	10 to 56.22 mA dc	550 *
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	Table 3 — Power Source		
25	0 to 4 Vdc	100 M	Code	Power	
26	10 to 32.4 mA dc	200	00	Not Loaded	
27	4 to 10 mA dc	475	01	$\pm 15 \pm 1$ Vdc	
28	0 to 10 V (Hi-Z)	1013	02	$28 \pm 2$ Vdc	
29	0 to 120 Vdc	2.5 M	03	$5 \pm 0.25$ Vdc	
30	Group 1 Selectable	Varies	04	$12 \pm 1$ Vdc	
31	2, 4 or 10 Vdc	Varies	05	$15 \pm 1$ Vdc	
32	0 to 2 Vdc	100 M	06	$24 \pm 2$ Vdc	
33	0 to 3.45 Vdc	100 M	07	$48 \pm 2$ Vdc	
34	1.08 to 5.4 Vdc	5.2 M	08	85 to 132 Vac, 125 Vdc	

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

#### CONTACT INFORMATION:

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