

# Thermo Scientific Masterflex

## P/S Digital Networking Pump Systems



### Interface these brushless digital drives to a computer for automated lab and process applications

- Flow rate: 0.001 to 3400 mL/min with L/S tubing. Flow rate depends on drive rpm and tubing size.
- Graphical LCD shows four operating modes: continuous run, time dispense, copy dispense, and volume dispense. View pump performance continually.
- Dispense by: mL—volume in mL of each dispense, 0.001 to 9999 mL; Copy—1 to 9,999 dispense cycles; or SEC—time interval between each dispense cycle: 1 to 9,999 secs.
- Interface drive to your PC via DB9 serial or USB connector; valve control via auxiliary output contact.

- Menu driven interface—select one of seven languages for programming and operation.
- Remote control capabilities via fluid-resistant input/output connector on back of drive:
  - Speed control input: scalable 0 to 20 mA, 4 to 20 mA, 0 to 10 V;
  - Pumping direction: requires open collector or contact closure;
  - Start/stop/purge: requires open collector or contact closure;
  - Tachometer output: scalable 0 to 20 mA, 4 to 20 mA, 0 to 10 V, or open collector.



## Flow rates in mL/min for P/S Digital Console Process Drive

RPM	Precision pump tubing						High-performance precision pump tubing*			
	P/S 13	P/S 14	P/S 16	P/S 25	P/S 17	P/S 18	P/S 15	P/S 24	P/S 35	P/S 36
	Standard*, Easy-Load, Easy-Load II, Easy-Load 3						Multichannel† Standard*, Easy-Load, Easy-Load II, Easy-Load 3			
	Cartridge, Multichannel			Cartridge			Easy-Load			
0.1 to 600	0.006 to 36	0.022 to 130	0.08 to 480	0.17 to 1000	0.28 to 1700	0.38 to 2300	0.17 to 1000 (0.18 to 1100)	0.28 to 1700 (0.30 to 1800)	0.38 to 2300 (0.43 to 2600)	0.48 to 2900 (0.57 to 3400)
0.02 to 100	0.001 to 6	0.004 to 21	0.016 to 80	0.033 to 170	0.057 to 280	0.077 to 380	0.033 to 170 (0.033 to 180)	0.057 to 280 (0.057 to 300)	0.077 to 380 (0.077 to 430)	0.096 to 480 (0.096 to 580)

\* Values in parentheses are with high-performance pump heads †Multichannel head is not available for P/S 36. Multichannel and Cartridge heads are available for microbore tubing.

## Specifications & Ordering Information

Catalog number	1300-3640-955	1300-3640-956	1300-3640-965	1300-3140-955	1300-3140-956	1300-3140-965
Included pump head	Easy-Load II (thin wall)	Easy-Load II (thick wall)	High-Performance (thick wall)	Easy-Load II (thin wall)	Easy-Load II (thick wall)	High-Performance (thick wall)
Number of heads accepted	2	2	1	4	4	1
RPM	0.1 to 600			0.02 to 100		
External control – input	0 to 20 mA, 0 to 10V; Scaleable START/STOP, DIR. (CW/CC), PRIME via contact closure Remote / Local Enable Contact Secondary Speed Control 0-20mA or 4-20mA Auxiliary Contact (Limit Switch)					
External control – output	4 to 20 mA, or 0 to 10 V					
Motor running logic	N.O. or N.C. (1A @ 24V)					
Tachometer output	5V, TTL pulse					
Power supply output	24V, 150 mA					
Voltage (50/60 Hz)	115/230 VAC (auto selected)					
Motor type	Brushless continuous duty, TENV*, DC, permanent lubricated bearings					
Control type	PWM (Pulse Width Modulated)					
Speed regulation (repeatability)	±0.1%; ±0.1 rpm @ 600 rpm; %; ±0.21 rpm @ 100 rpm					
Operating temperature	0 to 40°C (32 to 104°F)					
Storage temperature	–25 to 65°C (–13 to 149°F)					
Housing materials	ABS, Powder-coated aluminum					
IP rating	IP33					
Agency approvals	ETL, cETL, CE					
Controller dimensions (L x W x H)	13.0 x 8 x 8					
Shipping weight	20 lbs.					

P/S 3.3

[www.thermo.com/fluidhandling](http://www.thermo.com/fluidhandling)

Barrington, IL 60010  
1-800-637-3739  
1-847-381-7050  
1-847-381-7053 fax

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