

MODE	
00	
1234	mL
1/5000	sec

MASTERflex[®]

DIGITAL MODULAR DISPENSING DRIVES

ACCURATE REPETITIVE DISPENSING IN A CONVENIENT MODULAR FORMAT!

- Modular design allows you to conveniently separate motor and controller by up to 15 feet (4.5 meters)
- Graphical LCD interface with four operating modes
- Precise flow regulation via easy-to-use menu-driven programming
- Antidrip function ensures dispensing accuracy
- Controllers are available in benchtop or washdown/wall-mount options
- L/S[®] or I/P[®] drives meet a wide range of flow rates



Cole-Parmer[®]
scientific experts

The only MASTERflex[®] precision tubing with MASTERflex[®] pumps for optimal dispersion performance. Use of other tubing may void applicable warranties.

Masterflex® Digital Modular Dispensing Drives

Precision digital drives offer four dispensing modes and low-maintenance brushless motors. Modular format lets you place motor and controller where convenient—up to 15 feet (4.5 meters) apart. Motors allow you to stack pump heads for increased flow rates and multichannel applications.

The four-line graphical LCD displays all operational parameters and intuitive menu-driven programming eases setup. The $\pm 0.1\%$ speed control offers accurate and repeatable fluid metering and transfer. Antidrip function prevents annoying end of cycle dripping and sample loss and increases dispensing accuracy.

Benchtop and washdown/wall-mount models are designed for accurate dispensing but are reliable enough for continuous-duty process applications. For easy integration into automated processes, you can control speed, direction, start/stop, and prime remotely.

EASY-TO-USE CONTROLLER INTERFACE

Reversible motor allows you to prime or purge tubing and pump fluid in either direction

Separate speed and power (on/off) controls to maintain your speed setting while turning pump on and off

Graphical LCD shows four operating modes:

- Continuous run
- Timed dispense
- Copy dispense
- Volume dispense



Keypad lockout provides security

Select keypad or remote control

Membrane keypad and menu-driven programming for easy control of pumping parameters

CONVENIENT CONTROLLER INPUT/OUTPUT

Connector for multifunction remote control

Secure cable connection between controller and drive unit



Universal voltage and country-specific plug/cord set

Separate power (on/off) switch to keep your settings when pump is turned off

REMOTE CONTROL CAPABILITIES

- 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

MODULAR DRIVES WITH BENCHTOP CONTROLLER

- Splash-resistant ABS plastic controller housing is IP33 rated; drive housing is epoxy-finished steel, IP33 rated
- Include a 6-ft (1.8-m) cable to connect drive and controller; optional 9-ft (2.7-m) extension cable is available (see "Accessories" on back page)
- Remote control capabilities via DB25 female connector on back of controller



A L/S® Modular drive 77301-40



C I/P® Modular drive 07594-00 (controller only shown)

New shaft insert on L/S® models greatly reduces noise at high rpm and limits wear of interface between pump head and drive.

WASHDOWN MODULAR DRIVES WITH WALL-MOUNT CONTROLLER

- Wall-mount controller housing is powder-coated aluminum, IP66 / NEMA 4X rated for washdown; powder-coated steel drive housing is IP66 / NEMA 4X rated for washdown
- Include a 6-ft (1.8-m) cable to connect drive and controller; optional 9-ft (2.7-m) extension cable is available (see "Accessories" on back page)
- Remote control capabilities via weather-resistant connection on controller



B L/S® Modular drive 77301-50 shown with Easy-Load® II pump head 77200-62



D I/P® Modular drive 07594-10 shown with Easy-Load® pump head 77601-10



**FREE TECHNICAL
APPLICATIONS ASSISTANCE!**

In the US

625 E. Bunker Court
 Vernon Hills, IL 60061
 Call toll-free 1-800-323-4340
 Phone: 1-847-549-7600
 Fax: 1-847-247-2929
www.coleparmer.com

In Canada

Call toll-free 1-800-363-5900
 Phone: 1-514-355-6100
 Fax: 1-514-355-7119
www.coleparmer.ca

In the United Kingdom

Free phone: 0500-345-300
 Phone: 020-8574-7556
 Fax: 020-8574-7543
www.coleparmer.co.uk

In India

Toll-free: 1-800-266-1244
 Phone: 91-22-6139-4444
 Fax: 91-22-6139-4422
www.coleparmer.in

International customers

Call 1-847-549-7600 to reach our
 International Sales Department
 or contact your local dealer.

L/S® DIGITAL MODULAR DISPENSING DRIVES

- Ideal for laboratory or research applications. Accept all nine styles of L/S pump heads

Flow rates in mL/min (flow rates in parentheses can only be obtained with the High-Performance pump head)



rpm	Precision pump tubing						High-performance precision pump tubing			
	L/S 13	L/S 14	L/S 16	L/S 25	L/S 17	L/S 18	L/S 15	L/S 24	L/S 35	L/S 36
	Standard [†] , Easy-Load, Easy-Load II, Easy-Load 3						Multichannel [‡] , Standard, Easy-Load II, Easy-Load 3, High-Performance			
	Cartridge, Multichannel			Cartridge			Easy-Load			
0.1 to 600	0.006 to 36	0.021 to 130	0.08 to 480	0.17 to 1000	0.28 to 1700	0.38 to 2300	0.18 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)

[†]The Standard pump head is not available for L/S 25.

[‡]Multichannel head is not available for L/S 36. Multichannel and Cartridge heads are available for microbore tubing.

Catalog number	rpm	Speed control (resolution)	Pump heads accepted	Motor size	IP rating	Dimensions (L x W x H)	Power (50/60 Hz)	
							VAC	Amps
A Digital modular drive with benchtop controller								
MK-77301-40	0.1 to 600	±0.1% (0.1 rpm at 600 rpm; 0.01 rpm at 100 rpm)	2	1/10 hp (75 W)	IP33	Controller: 10½" x 8¼" x 5" (26.7 x 21 x 12.7 cm) Drive: 10½" x 3¹³⁄₁₆" x 4½" (26.7 x 9.7 x 11.7 cm)	90 to 260	2.2 at 115 VAC, 1.1 at 230 VAC
B Digital washdown modular drive with wall-mount controller								
MK-77301-50	0.1 to 600	±0.1% (0.1 rpm at 600 rpm; 0.01 rpm at 100 rpm)	2	1/10 hp (75 W)	IP66	Controller: 9" x 11¾" x 4½" (23 x 30 x 11.4 cm) Drive: 15½" x 7" x 6" (39.5 x 17.8 x 15.2 cm)	90 to 260	2.2 at 115 VAC, 1.1 at 230 VAC

I/P® DIGITAL MODULAR DISPENSING DRIVES

- Ideal for higher flow rate applications such as manufacturing, industrial, or large-volume transfers

Flow rates in LPM (GPM) per channel



rpm	Precision pump tubing			High-performance precision pump tubing		
	I/P 26	I/P 73	I/P 82	I/P 70	I/P 88	I/P 89
0.1 to 650	0.0006 to 4.0 (0.0002 to 1.0)	0.001 to 8.0 (0.0003 to 2.1)	0.002 to 13.0 (0.0005 to 3.5)	0.001 to 8.0 (0.0003 to 2.1)	0.002 to 17.0 (0.0005 to 4.5)	0.0025 to 19.0 (0.0007 to 5.0)

Catalog number	rpm	Speed control (resolution)	Pump heads accepted	Motor size	IP rating	Dimensions (L x W x H)	Power (50/60 Hz)	
							VAC	Amps
C Digital modular dispensing drive with benchtop controller								
MK-07594-00	0.1 to 650	±0.1% (0.1 rpm at 650 rpm)	2	¾ hp (280 W)	IP33	Controller: 10½" x 8¼" x 5" (26.7 x 21 x 12.7 cm) Drive: 15½" x 7" x 6" (39.5 x 17.8 x 15.2 cm)	90 to 260	4.5 at 115 VAC, 2.5 at 230 VAC
D Digital washdown modular dispensing drive with wall-mount controller								
MK-07594-10	0.1 to 650	±0.1% (0.1 rpm at 650 rpm)	2	¾ hp (280 W)	IP66	Controller: 9" x 11¾" x 4½" (23 x 30 x 11.4 cm) Drive: 15½" x 7" x 6" (39.5 x 17.8 x 15.2 cm)	90 to 260	4.5 at 115 VAC, 2.5 at 230 VAC

Accessories for benchtop models

[MK-07523-97](#) **Handheld remote controller**, control start/stop, direction, and prime; route tubing through handle for dispensing and filling applications; 6-ft (1.8-m) cable. For 77301-40 only

[MK-07523-92](#) **Foot switch**, momentary start/stop; 6-ft (1.8-m) cable

[MK-07523-95](#) **Cable assembly**, DB25 male connector and 25-ft (7.9-m) cable with stripped wire ends for remote control

[MK-77301-82](#) **Extension cable**, 9 ft (2.7 m); extends distance between motor and controller

[MK-07523-94](#) **DB25 male connector**, use to create your own cable

Accessories for washdown models

[MK-07575-84](#) **Washdown foot switch**, momentary start/stop; 6-ft (1.8-m) cable

[MK-77301-82](#) **Extension cable**, 9 ft (2.7 m); extends distance between motor and controller

[MK-07575-80](#) **Cable assembly**, 31-pin round connector and 25-ft (7.9-m) cable with stripped wire ends for remote control