

2000 Series HercuLine[®] Actuators

Model Selection Guide

Instructions

- Select the desired key number. The arrow to the right marks the selection available.
 - Make the desired selections from Tables I thru VIII using the column below the arrow.
- A dot (•) denotes unrestricted availability.

Key Number	I	II	III	IV	V	VI	VII	VIII	IX
_____	_____	_____	_____	_____	_____	_____	_____	_____	_____

KEY NUMBER - Motor Selection

	Selection	Availability			
Basic Motor Unit (no electronics)	2000	↓			
Basic Motor Unit plus Digital Electronics	2001		↓		
Enhanced Performance Motor Unit with Non-contact Position Sensing	2002			↓	
Unidirectional Motor (M640D Replacement)	2003				↓

TABLE I - TORQUE & SPEED SELECTION (speed per 150 degree rotation)

Torque, lb-in/(N-M)	50Hz (90°/150°)	60Hz (90°/150°)					
50 / (6.0)	4.5 / 7.5 sec	4 / 6 sec	050	•	•	•	
100 / (11.5)	9 / 15 sec	7 / 12 sec	100	•	•	•	•
200 / 22.5)	18 / 30 sec	15 / 25 sec	200	•	•	•	
400 / (45.0)	36 / 60 sec	30 / 50 sec	400	•	•	•	
400 / (45.0)	54 / 90 sec	45 / 75 sec	600	•	•	•	

TABLE II - ROTATION

Travel	90 degrees	090	•	•	•	
	150 degrees	150	•	•	•	
	360 degrees	360				•

TABLE III - POWER SUPPLY

Single Phase	100 - 130 Vac, 60 Hz	126	•	•	•	•
	100 - 130 Vac, 50 Hz	125	•	•	•	•
	200 - 240 Vac, 60 Hz	246	•	•	•	
	200 - 240 Vac, 50 Hz	245	•	•	•	

TABLE IV - ANALOG INPUT/OUTPUT SIGNALS

Input	3 Wire Drive up/down	0 __	•			
	0/4-20 mA, 0/1-5 Vdc, 0-10 Vdc	2 __		•		
	0/4-20 mA, 0/1-5 Vdc, 0-10 Vdc	3 __			•	
	0 to 135 ohm input (Series 90 control)	4 __		a		
	Contact Input for 2003	6 __				•
Output	None	_ 00	•	•	•	•
(Note 1)	Dual 1000 Ohm (1000 ohms over 150 degrees)	_ 15	b			
(Note 1)	Dual 1000 Ohm (1000 ohms over 90 degrees)	_ 19	c			
	Slidewire Emulation	_ 60		•		
	Slidewire Emulation	_ 65			•	
	0/4-20mAadc (0/1-5 Vdc, 0-16 Vdc)	_ 80		•		
	0/4-20mAadc (0/1-5 Vdc, 0-16 Vdc)	_ 85			•	

TABLE V - SWITCH AND RELAY OUTPUTS (2 end-of-travel limit switches are standard)

Auxiliary Outputs	No Auxiliary Switches	0 _	•	•	•	
	2 Auxilliary Switches	2 _	•	•	•	•
	4 Auxilliary Switches	4 _	•	•		
Relay Outputs	No Relays	_ 0	•	•	•	•
	2 Programmable Relay Outputs	_ 2		•		
	2 Programmable Relay Outputs	_ 3			•	
	4 Programmable Relay Outputs	_ 4		•	•	

TABLE VI - OPTIONS			Availability				
			2000	2001	2002	2003	
			Selection	↓	↓	↓	↓
Local keypad/ display	No local display interface supplied (Note 2)	0_____	•	•	•	•	
	Integrally mounted local display/keypad interface	1_____		•	•		
Local Auto/ manual switch	No auto/manual switch	_ 0 _____	•	•	•	•	
	Auto/manual switch with "Out of Auto Contact"	_ 1 _____	•	•			
	Auto/manual switch with "Out of Auto Contact"	_ 2 _____			•		
Handwheel	No Handwheel	-- 0 ---	•	•	•	•	
	Handwheel	-- 1 ---	•	•	•		
Certificates	None	--- 0 ---	•	•	•	•	
	Certificate of Conformance	--- 1 ---	•	•	•	•	
Approvals	UL Type 4/IP66, CSA (Note 4)	--- 0 _	•	•	•	•	
	CE	--- 1 _	•	•	•		
Shipped Rotation	Counter clockwise shaft rotation on increasing signal	--- 0	•	•	•	•	
	Clockwise shaft rotation on increasing signal	--- 1		•	•		

TABLE VII - COMMUNICATIONS/PROTOCOL

None	No communications option board or protocol	0	•			•
Modbus RTU RS485	RS-485 Modbus compliant - standard with EEU	1		•	•	
HART 5	HART Communications Protocol 5	2		•	•	
HART 6	HART Communications Protocol 6	3		•	•	

TABLE VIII - MANUALS

Manuals	Product Manual on CD (English)	0	•	•	•	•
	English Manual (Hard Copy) (Also Includes CD)	1	•	•	•	•

TABLE IX - FACTORY OPTIONS

Factory Options	None	00	•	•	•	•
-----------------	------	----	---	---	---	---

Restrictions

Restriction Letter	Available Only With		Not Available With	
	Table	Selection	Table	Selection
a	IV	_ 00	IV	_ 60, _ 80
b	II	150	II	090
c	II	090	II	150

ACCESSORIES

Mounting Hardware Linkage Assembly	Mounting plate adapter for Barber Colman Series MP495	51452354-501
	Mounting plate adapter for Landis & Staefa SQM53/56	51452354-502
	Direct Couple Valve Hardware	51452354-503
	North American Valve Retrofit Kit	51452354-511
	Ball joint for 5/16" dia. Pushrod	51452354-504
	Pushrod 12 in. (304,5 mm) long, 5/16 " dia.	51452354-505
	Pushrod 18 in. (457,2 mm) long, 5/16 " dia.	51452354-506
	Pushrod 24 in. 609,6 mm) long, 5/16 " dia.	51452354-507
HART	Pushrod 48 in. (1219,2 mm) long, 5/16 " dia.	51452354-508
	Turk Cable for Handheld Connection	51452352-501
Handheld Config. (Note 3)	HercuLink™ PC and Palm PDA Software	51452354-509
	Battery powered 232/485 converter with cable	51452354-510
V51 Valve Kits	HercuLine 2000 V51 2.5" - 3" Valve Mounting Kit	51452354-513
	HercuLine 2000 V51 4" Valve Mounting Kit	51452354-514

- Notes:**
1. 135 ohm available by parallelling 1K potentiometer with 158 Ohm resistor (supplied).
 2. HercuLink™ software (pn 51452354-509), RS232/485 converter (pn 51452354-510), customer supplied Palm™ PDA running OS3.5 or higher and Palm serial cable are required for the 2001 and 2002 actuators if no display is selected.
 3. Requires PDA manufacturer's serial interface cable.
 4. CSA approval is good for 75°C and a maximum relay load of 3.5 amps or 70°C with a relay load of 5 amps.