

Analog setpoint or digital link mode

Stand alone mode with integral position indexer

The axis control offer is intended for machines which simultaneously require high performance servo motion control, associated with PLC sequential control.

Position control system

Modicon Premium and Modicon Quantum automation platforms offer a range of interfaces including axis control modules providing a position control function. These modules are:

- Analog output modules:
 - TSX CAY, multi-axis control (2 to 4 axes) for Premium
 - 140 MSB, single-axis control for Quantum
- Modules with SERCOS digital link:
 - TSX CSY, controls up to 16 servodrives for Premium
 - 141 MMS, controls up to 22 servodrives for Quantum

Lexium 17D servodrives

Lexium 17D servodrives provide solid state switching, current (or torque), speed and position control.

Three types of servodrive, each available in 7 current ratings (1.5, 3, 6, 10, 20, 40 and 70 A permanent rms), are available:

- ± 10 V analog setpoint, controlled by position control module of PLC.
- Stand alone mode with integral position indexer, controlled by:
 - discrete I/O (as standard, Lexium servodrives have 5 discrete I and 2 discrete O)
 - CANopen bus
 - Modbus Plus network, Fipio bus or Profibus DP bus (1)
- SERCOS mode (1) allows Lexium servodrives to be controlled by a PLC position control module via the SERCOS high speed digital link.

Lexium brushless motors

Brushless motors are synchronous, 3-phase motors. They are equipped with a built-in sensor which can be a resolver or a SinCos Hiperface absolute encoder. They are provided with or without holding brake (except for BPL motor). Two ranges of motors are available:

SER motors

They are equipped with Neodymium Iron Borium (NdFeB) magnets and provide a high power density within a confined space, as well as a dynamic speed response that suits all machine requirements. They have:

- IP 41 or IP 56 protection.
- Keyed or untapped shaft ends.
- With or without gearbox. These gearboxes are offered with three speed reduction ratios 3:1, 5:1 and 8:1 (gearbox shaft end with key).

BPH/BPL motors

Their design, with samarium cobalt permanent magnets, ensures perfect rotation even at very low speed. Depending on the model, they have:

- IP 65 or IP 67 protection (IP 54 for BPH 055 motor).
- Keyed or untapped shaft ends.

BPL motors, only available without a holding brake, have a reduced casing length (approximately 20% smaller compared to equivalent BPH motors).

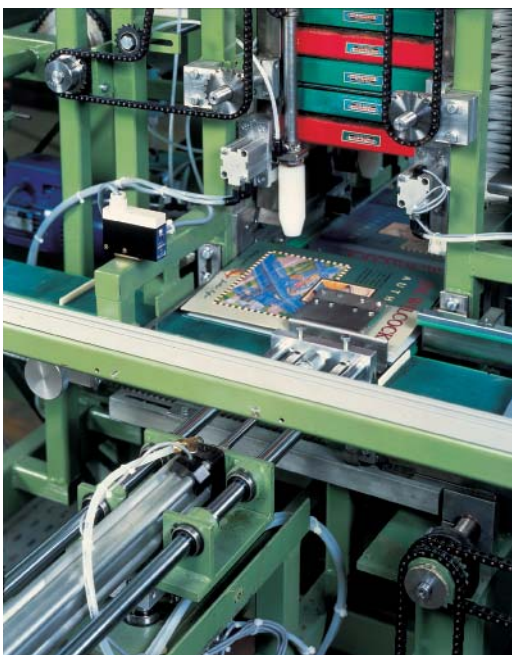
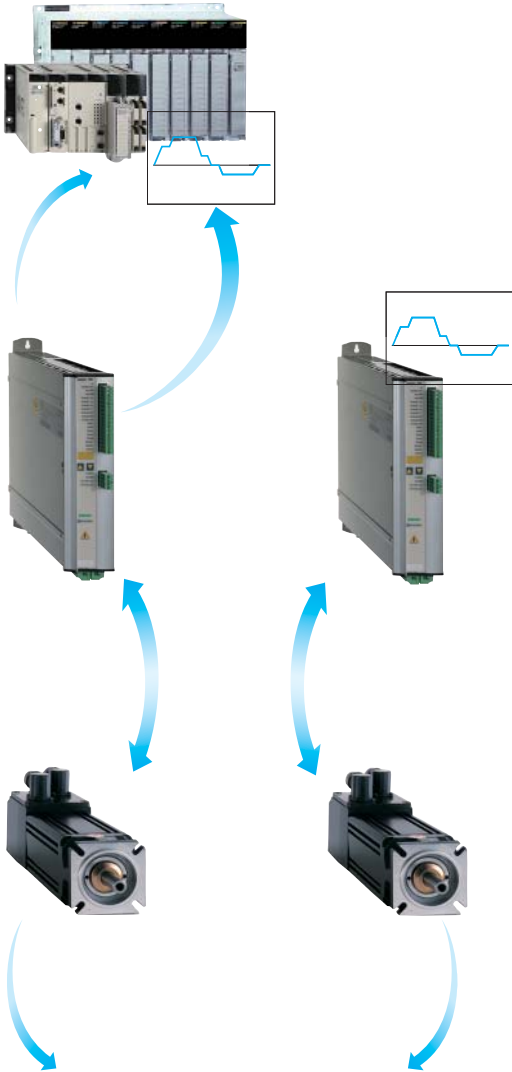
Configuration and installation






Motion control applications are designed and installed using:

- Unity Pro (for Premium or Quantum PLCs) software
- Concept (for Quantum PLCs) software
- PL7 Junior/Pro (for Premium PLCs) software

Unilink user software, in association with Lexium servodrives, provides configuration and adjustment of the parameters for these servodrives.

(1) Requires use of an option card (one slot available per servodrive).



Lexium SER brushless motors (IP 41 or IP 56)		Lexium 17D digital servodrives							Lexium BPH/BPL brushless motors (IP 54 , IP 65 or IP 67)	
										
		MHDA 1004●00	MHDA 1008●00	MHDA 1017●00	MHDA 1028●00	MHDA 1056●00	MHDA 1112A00	MHDA 1198A00		
		1.5 A rms	3 A rms	6 A rms	10 A rms	20 A rms	40 A rms	70 A rms		
		0.4/1.1 Nm							8000 rpm	BPH 0552 S
		0.9/1.9 Nm	1.3/3.4 Nm						6000 rpm	BPH 0751 N
			1.1/2.4 Nm						6000 rpm	BPL 0751 V
SER 39A 4L7S	6000 rpm	1.1/2.5 Nm	1.1/4 Nm							
SER 39B 4L3S	6000 rpm		2.2/4.4 Nm	2.2/8.0 Nm						
		1.3/2.5 Nm	2.3/4.8 Nm	2.3/8.5 Nm					6000 rpm	BPH 0752 N
				2.8/7.3 Nm					6000 rpm	BPL 0753 N
				4/12.4 Nm					6000 rpm	BPH 0754 N
SER 39C 4L3S	6000 rpm		2.9/4.7 Nm	2.9/9.4 Nm						
			1.7/3.5 Nm	2/5.5 Nm					6000 rpm	BPL 0951 V
			3.7/7.2 Nm	4.3/13.4 Nm					6000 rpm	BPH 0952 N
SER 3BA 4L3S	6000 rpm			4.6/9.2 Nm	4.6/15.3 Nm					
SER 3BA 4L5S	6000 rpm		4.2/8.2 Nm	4.5/15 Nm						
				5.4/13.4 Nm					6000 rpm	BPL 0953 N
				6.0/13.4 Nm	6.0/20.3 Nm				6000 rpm	BPH 0953 N
					9.2/30.3 Nm				6000 rpm	BPH 0955 N
SER 3BB 4L3S	6000 rpm			6/12 Nm	6.6/20 Nm					
SER 3BB 4L5S	6000 rpm			6.6/15.8 Nm	6.6/25 Nm					
				7.4/13.6 Nm	7.4/19.3 Nm				6000 rpm	BPH 1152 N
				6.8/13.5 Nm	10.5/19 Nm				6000 rpm	BPH 1153 N
						18.7/48.2 Nm			6000 rpm	BPH 1156 N
SER 3BC 4L5S	6000 rpm			8.6/17 Nm	10/28 Nm					
SER 3BC 4L7S	3000 rpm		10/16 Nm	10/32 Nm						
					11.4/18 Nm	12/30 Nm			4000 rpm	BPH 1422 N
SER 3BD 4L5D	6000 rpm				13.4/29 Nm					
SER 3BD 4L7S	3000 rpm			13.4/24 Nm	13.4/38 Nm					
					14.5/24.2 Nm	17/42 Nm			4000 rpm	BPH 1423 N
						25/37.5 Nm			4000 rpm	BPH 1902 N
						36/57 Nm			4000 rpm	BPH 1903 K
						46/76.2 Nm			4000 rpm	BPH 1904 K
							75/157 Nm		4000 rpm	BPH 1907 K
							90/163 Nm	100/230 Nm	4000 rpm	BPH 190A K

1.1/2.5 Nm For a Lexium SER motor, the 1st value corresponds to continuous stall torque, and the 2nd value corresponds to peak stall torque.

1.3/3.4 Nm For a Lexium BPH/BPL motor, the 1st value corresponds to continuous stall torque., and the 2nd value corresponds to peak stall torque.

Example: Motor **SER 3BB 4L3S** associated with servodrive **MHDA 1017** meets the requirements of applications requiring a maximum 6.6 Nm continuous stall torque, 12 Nm peak stall torque and 6000 rpm mechanical speed.