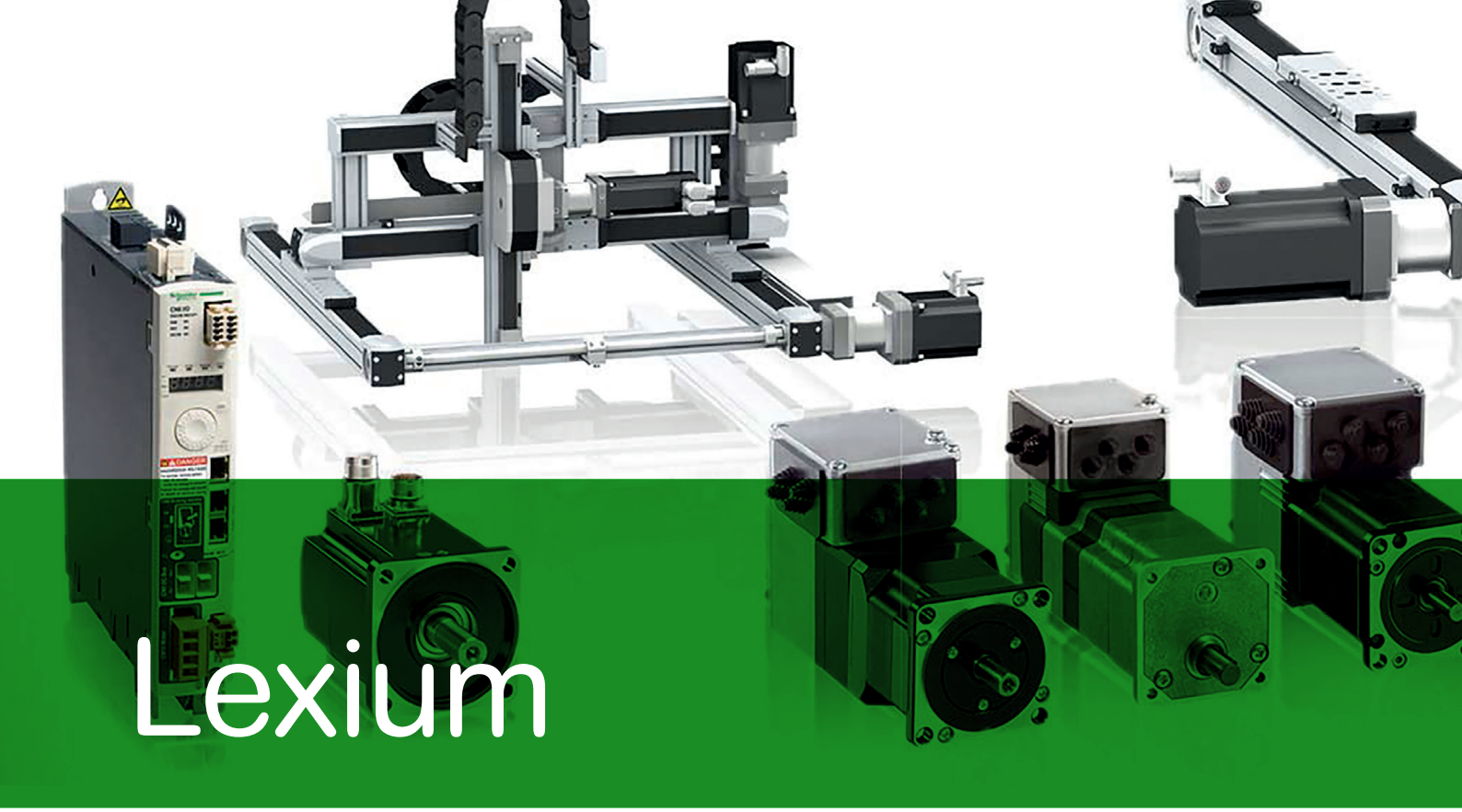
PacDrive 3 automation solution

Lexium 62 ILD detached servo drives

Catalog

February 2017

Schneider Electric



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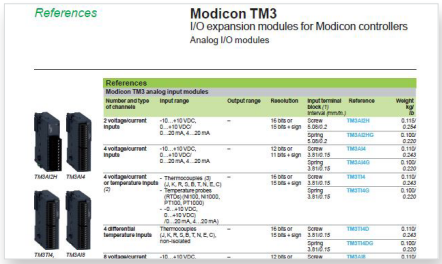

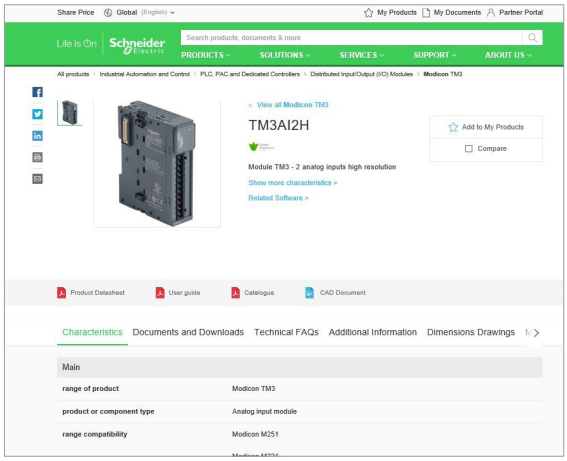

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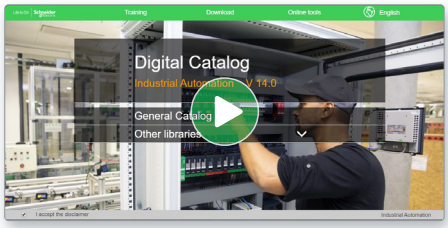

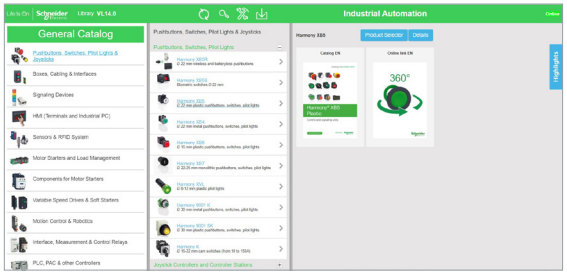

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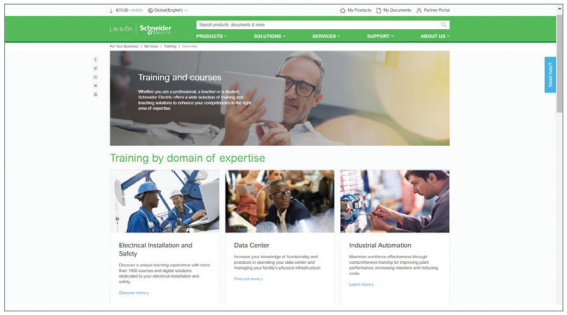

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General contents

PacDrive 3 automation solution
Lexium 62 ILD detached servo drives

PacDrive 3 automation solution
Lexium 62 ILD detached servo drives

Connection module

Distribution box

Detached servo drives

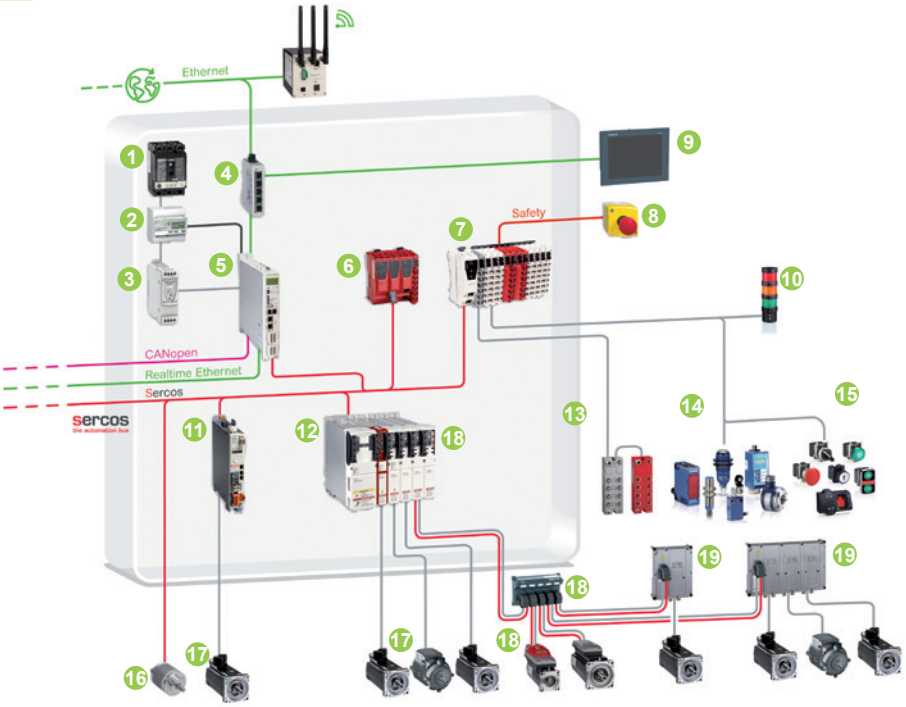
Presentation

The Lexium 62 ILD detached servo drives are part of the Lexium 62 Multi-axis servo solution.

- They are supplementing the Lexium 62 cabinet based drives and the Lexium 62 ILM integrated drives.
- They are fully integrated in the Lexium 62 ILM network infrastructure, support as well the strategy of cabinetless automation.
- They give an IP65 degree of protection.
- The Lexium 62 ILD detached servo drives can be combined like Lexium 62 cabinet drives with Lexium SH3 and MH3 motors (up to a rated current of 6 A) and they can operate as well with other AC motors, even with the smallest one with 40 mm flange size.
- Compared with 62 ILM integrated drives this opens up additional degrees of freedom for flexible creation of servo solutions.
- Two types of Lexium 62 ILD detached servo drives are available:
  - Lexium 62 ILD single servo drive, for the control of one axis
  - Lexium 62 ILD triple servo drive, for the control of three axis
- The only components that remain in the control cabinet are:
  - The PacDrive LMC Motion controller,
  - The shared power supply,
  - The connection module with the possibility of connecting up to 45 servo modules. The connection module feeds 24 V power for controls and brakes, Inverter Enable and Sercos to the Lexium 62 ILD detached servo drive from the same DC bus power supplies as the Lexium 62 Multi-axis servo drives.

Solution breakdown

1 **Compact NSX** Circuit breaker
2 **IEM32** Energy meter
3 **Phaseo** Switch mode power supply
4 **ConneXium** Switch Ethernet
5 **PacDrive LMC216** Motion controller
6 **Modicon TM5CSLC** Safety logic controller
7 **Modicon TM5** (IP 20): Sercos interface module, Safety expansion module, Expansion module
8 **Harmony XALK** Emergency stop
9 **Magelis** HMI Small Panels
10 **Harmony XV** Signaling units
11 **Lexium 52** single axis servo drive
12 **Lexium 62** Multi-axis servo solution cabinet based: Power supply, Servo drives, Servo drives with embedded safety
13 **Modicon TM7:** IP 67 Expansion module, IP 67 Safety expansion module
14 **Sensors:** Proximity and Photoelectric sensors, Limit and Pressure switches, Encoder
15 **Harmony XB4/XB5** Control units, **Harmony XB5S** Biometric switches
16 3rd party product: encoder
17 **Lexium SH/MH** Servo motors series
18 **Lexium 62 ILM** Integrated servo modules: Connection module, Distribution boxes, Integrated servo drives, I/O and Safety optional modules
19 **Lexium 62 ILD** detached servo drives: single drive, triple drive



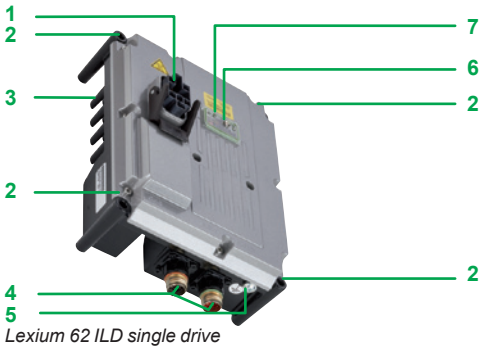
> Lexium 62 ILD detached servo drive benefits

By moving the servo drives out of the control cabinet and into the field, Lexium 62 ILD detached servo drives offer is reducing significant the efforts for the servo solution:

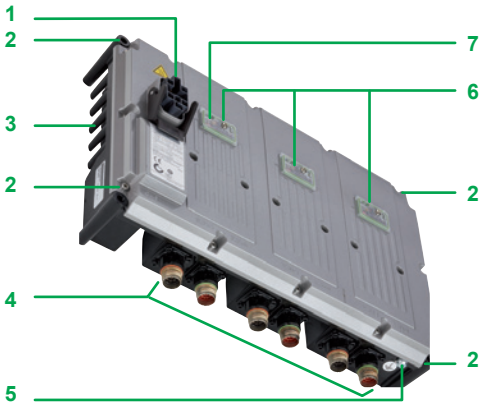
- Plug & Play technology with pre-assembled hybrid cables
- Up to 90% less wiring time
- Up to 70% less cabling
- No cabinets necessary for Lexium 62 ILD detached servo drives
- More flexibility in the selection of motors
- Less wiring and cabling requirements in the control cabinet by up to 90%
- Detached IP65 servo drive electronics unit, in comparison to Lexium 62 ILM more flexibility in the selection of motors
- Quick interconnects and hybrid cables for signal and power level
- Automatic network configuration
- Diagnostic functions

Lexium 62 ILD detached servo drives – Range presentation

Type		Lexium 62 ILD detached single servo drive		Lexium 62 ILD detached triple servo drive	
Reference		**ILM62DDD24A1000**	**ILM62DDD24C1000**	**ILM62DDD24B1000**	**ILM62DDD24D1000**
Number of controled axis		1		3	
Power Supply	Supply voltage	250…700 Vdc			
	Control voltage (without holding brake)	24 Vdc (-20%… +25%)			
	Max. current consumption (without holding brake)	0.7 A			
	Control voltage (with holding brake)	24 Vdc (-10 % ... +6 %)			
	Max. current consumption (with holding brake)	4.9 A			
Motor connection	Switching frequency	8 kHz			
	Rated current at 40 °C *(104 °F)* (vertical)	Mounted on backplate: 5 Aeff (at 400 Vac)	For cold plate, passive cooling: 6.0 Aeff (at 400 Vac) For cold plate, active cooling (water cooling): 6.0 Aeff (at 400 Vac)	Mounted on backplate: 2.7 Aeff (at 400 Vac)	For cold plate, passive cooling: 4.4 Aeff (at 400 Vac) For cold plate, active cooling (water cooling): 6.0 Aeff (at 400 Vac)
	Peak current (acceleration) at 40 °C *(104 °F)*	24.0 Aeff (RMS)			
	Peak current for 100 ms (signal frequency = 0 Hz) at 40 °C *(104 °F)*	34.0 A			
Housing dimensions (D x W x H)		86 x 169 x 237 mm *(3.39 x 6.65 x 9.33 in.)*		86 x 348 x 237 mm *(3.39 x 13.7 x 9.33 in.)*	
Interfaces	Sercos	Integrated			
Encoder interface	Analog encoder	SICK Hiperface			
Cooling		Backplate, natural convection (only heat sink)	Cold plate, passive cooling Cold plate, active cooling (water cooling)	Backplate, natural convection (only heat sink)	Cold plate, passive cooling Cold plate, active cooling (water cooling)
Certifications		cULus / CE	cURus / CE	cULus / CE	cURus / CE
Protection rating		IP 65			
Safe Motion function management, via Sercos bus		Safe Torque Off (STO) without optional module DIS1 *(1)*			
Associated Motor	Type	Asynchronous motors: only voltage - frequenz controll U/f			
	Range	Lexium SH3 and Lexium MH3 servo motors up to 6A rated current Please consult our catalog “PacDrive 3 automation solution, Lexium SH3/MH3/SHS servo motors”			



Lexium 62 ILD single drive



Lexium 62 ILD triple drive

Lexium 62 ILD detached servo drives – description

item	Function
1	Hybrid socket connector and locking latch for hybrid cable (Sercos and power)
2	4 x M6 Mounting holes
3	Passive cooling system / Active cooling system for cold plate
4	M17 motor cable Connector / M17 encoder cable Connector
5	Protective ground (earth)
6	LED display (function status, Port 1 and 2, Sercos III)
7	Connector for optional module DIS1 *(1)*

(1) More technical information on optional module DIS1 in the User manual, and on our website www.schneider-electric.com

Lexium 62 ILD detached servo drive – Type code

ILM	62	DD	D24	•	1	0	00

Customer
00 = Standard

Internal
0 = Serial production

Hardware - Release
1

Variants
A = Lexium 62 ILD detached single servo drive, 5 A continuous current per axis
C = Lexium 62 ILD detached single servo drive, 6 A continuous current per axis for cold plate (passive / active)
B = Lexium 62 ILD detached triple servo drive, 2.7 A continuous current per axis
D = Lexium 62 ILD detached triple servo drive, 6 A continuous current per axis for cold plate (passive / active)

Current Output (Peak rms)
D24 = 24 A

Type
DD = Detached Drive (ILD)

Size
62 = Lexium 62

Family
ILM = Integrated Lexium drive

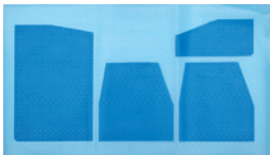
Lexium 62 ILD single drive

Lexium 62 ILD triple drive

VW3E6056

VW3E6057

VW3E6058



VW3E6059

Lexium 62 ILD detached servo drives – References

Designation	Description	Reference	Weight kg / *lb*
Lexium 62 ILD detached single servo drives	□ For one axis □ 5 A continuous current per axis	**ILM62DDD24A1000**	2.500/ *5,511*
	□ For one axis □ 6 A continuous current for cold plate with passive / active cooling	**ILM62DDD24C1000**	2.500/ *5,511*
Lexium 62 ILD detached triple servo drives	□ For three axes □ 2.7 A continuous current per axes	**ILM62DDD24B1000**	7.000/ *15.432*
	□ For three axes □ 6 A continuous current per axes for cold plate with passive / active cooling	**ILM62DDD24D1000**	7.000/ *15.432*

Accessories – References

Protection caps Necessary for unused connectors	Kit blind cover for motor/encoder connectors	**VW3E6056**	0.130/ *0.286*
	Kit blind cover for encoder connectors	**VW3E6057**	0.650/ *1.433*
Thermal-conduction Kits Necessary for cold plate	For Lexium 62 ILD detached single servo drives	**VW3E6058**	0.150/ *0.330*
	For Lexium 62 ILD detached triple servo drives	**VW3E6059**	0.200/ *0.440*

PacDrive 3 automation solution

Lexium 62 ILD detached servo drives

Motor cables, Encoder cables

FCE310●●●A200

FCE322●●●A200

FCE312●●●A200

FCE311●●●A200

FCE313●●●A200

Lexium 62 ILD cable – References

Cables between	Cables and	Length m	Length ft.	Reference	Weight kg / lb
Motor cables					
Lexium 62 ILD detached servo drives (M17 connector) *item no 8, see page 5*	Lexium SH3 and Lexium MH3 motors (M23 connector)	1.0	3.28	**FCE310010A200**	0.370/ 0.815
		1.5	4.92	**FCE310015A200**	0.460/ 1.014
		2.0	6.56	**FCE310020A200**	0.560/ 1.234
		2.5	8.20	**FCE310025A200**	0.660/ 1.455
		3.0	9.84	**FCE310030A200**	0.750/ 1.653
		3.5	11.48	**FCE310035A200**	0.850/ 1.873
		4.0	13.12	**FCE310040A200**	0.950/ 2.094
		4.5	14.76	**FCE310045A200**	1.050/ 2.314
		5.0	16.40	**FCE310050A200**	1.150/ 2.535
	Asynchronous motors (open end)	1.0	3.28	**FCE322010A200**	0.260/ 0.573
		1.5	4.92	**FCE322015A200**	0.350/ 0.771
		2.0	6.56	**FCE322020A200**	0.450/ 0.992
		2.5	8.20	**FCE322025A200**	0.550/ 1.212
		3.0	9.84	**FCE322030A200**	0.650/ 1.433
		3.5	11.48	**FCE322035A200**	0.740/ 1.631
		4.0	13.12	**FCE322040A200**	0.840/ 1.851
		4.5	14.76	**FCE322045A200**	0.940/ 2.072
		5.0	16.40	**FCE322050A200**	1.040/ 2.292
	Lexium SH304 motors, HMP04 (40 mm flange) motors with S915 connector	1.0	3.28	**FCE312010A200**	0.370/ 0.815
		1.2	3.93	**FCE312012A200**	0.400/ 0.881
		1.5	4.92	**FCE312015A200**	0.460/ 1.014
		2.0	6.56	**FCE312020A200**	0.560/ 1.234
		2.5	8.20	**FCE312025A200**	0.660/ 1.455
		3.0	9.84	**FCE312030A200**	0.750/ 1.653
		3.5	11.48	**FCE312035A200**	0.850/ 1.873
		4.0	13.12	**FCE312040A200**	0.950/ 2.094
		4.5	14.76	**FCE312045A200**	1.050/ 2.314
		5.0	16.40	**FCE312050A200**	1.150/ 2.535
Encoder cables					
Lexium 62 ILD detached servo drives (M17 connector) *item no 8, see page 5*	Lexium SH3 and Lexium MH3 motors (M23 connector)	1.0	3.28	**FCE311010A200**	0.190/ 0.418
		1.5	4.92	**FCE311015A200**	0.230/ 0.507
		2.0	6.56	**FCE311020A200**	0.250/ 0.551
		2.5	8.20	**FCE311025A200**	0.290/ 0.639
		3.0	9.84	**FCE311030A200**	0.330/ 0.727
		3.5	11.48	**FCE311035A200**	0.350/ 0.771
		4.0	13.12	**FCE311040A200**	0.390/ 0.859
		4.5	14.76	**FCE311045A200**	0.430/ 0.947
		5.0	16.40	**FCE311050A200**	0.450/ 0.992
	Lexium SH304 motors, HMP04 (40 mm flange) motors with S915 connector	1.0	3.28	**FCE313010A200**	0.190/ 0.418
		1.2	3.93	**FCE313012A200**	1.200/ 2.645
		1.5	4.92	**FCE313015A200**	0.230/ 0.507
		2.0	6.56	**FCE313020A200**	0.250/ 0.551
		2.5	8.20	**FCE313025A200**	0.290/ 0.639
		3.0	9.84	**FCE313030A200**	0.330/ 0.727
		3.5	11.48	**FCE313035A200**	0.350/ 0.771
		4.0	13.12	**FCE313040A200**	0.390/ 0.859
		4.5	14.76	**FCE313045A200**	0.430/ 0.947
		5.0	16.40	**FCE313050A200**	0.450/ 0.992

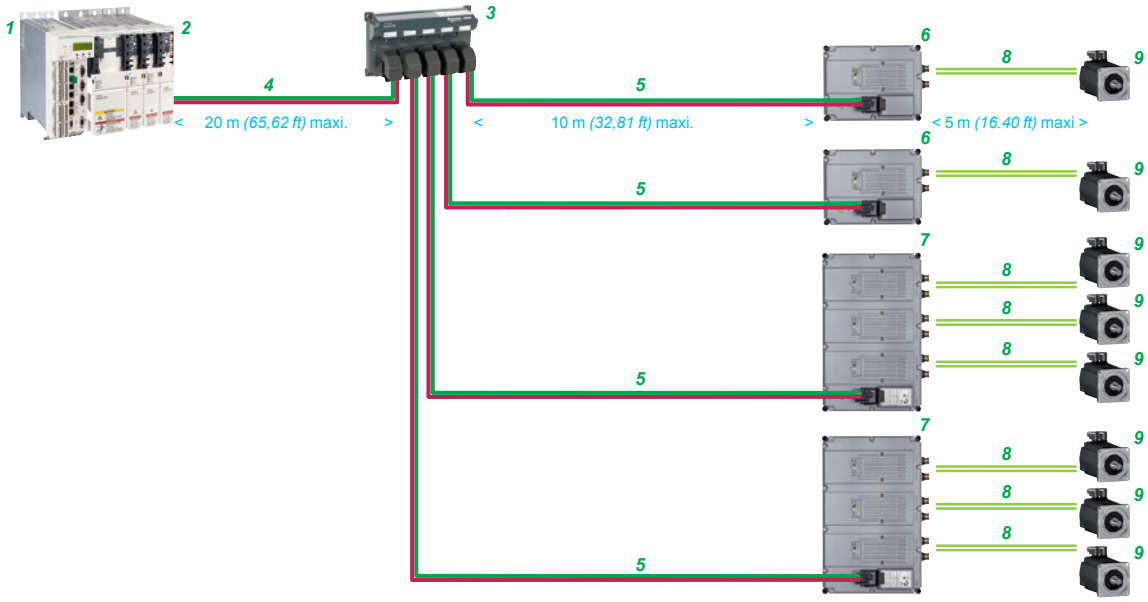
PacDrive 3 automation solution

Lexium 62 ILD detached servo drives

Hybrid cables

Hybrid cabling examples

Example



1 PacDrive 3 Logic Motion Controller
2 Connection module ILM62CM, see page 6
3 Distribution box ILM62DB, see page 7
4 Hybrid cable between Connection module ILM62CM and Distribution box ILM62DB, see below
5 Hybrid cable between Distribution box ILM62DB and Lexium 62 ILD detached servo drives or between two Distribution boxes ILM62DB (1), see below
6 Lexium 62 ILD single drive, see page 3
7 Lexium 62 ILD triple drive, see page 3
8 Motor cable, encoder cable, see page 5
9 Motors, please consult on our web site www.schneider-electric.com

Cable length	Max. (m / *ft*)
Between Connection module and Distribution box **ILM62DB**	20 / *65.62*
Between Distribution box, and Lexium 62 ILD detached servo drives	10 / *32.81*
Between Lexium 62 ILD detached servo drives and Motors	5 / *16.40*
Total of cable lengths	35 / *114.82*

(1) Any unused Distribution box connections must be terminated with a Sercos bridge.

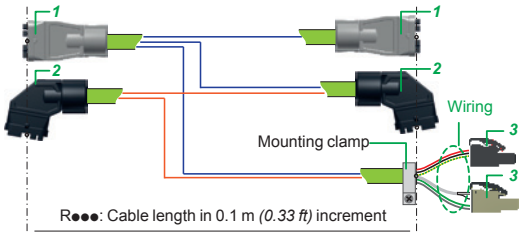
Hybrid cables – References

Hybrid cables includes cables for: DC bus, Sercos, 24 V, Inverter Enable signal.

Hybrid cables between (1)	and (2)	item nº	Connector (1)	Connector (2)	Standard length m / *ft*	Reference (●●● *x 0.1 m / 0.33 ft*)
Connection module ILM62CM	Distribution box ILM62DB	*4*	–	D0 (straight)	5 / *16.40*	**VW3E1147R●●●**
			–	D1 (left)	5 / *16.40*	**VW3E1141R●●●**
			–	D2 (right)	5 / *16.40*	**VW3E1146R●●●**
Distribution box ILM62DB	Distribution box ILM62DB or Lexium 62 ILD detached servo drives	*5*	D1 (left)	D0 (straight)	2 / *32.81*	**VW3E1149R●●●**
			D1 (left)	D1 (left)	2 / *32.81*	**VW3E1142R●●●**
			D1 (left)	D2 (right)	2 / *32.81*	**VW3E1148R●●●**
			D0 (straight)	D2 (right)	2 / *32.81*	**VW3E1150R●●●**
			D0 (straight)	D0 (straight)	2 / *32.81*	**VW3E1151R●●●**
			D2 (right)	D2 (right)	2 / *32.81*	**VW3E1152R●●●**

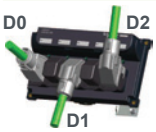
Note
*Item nº **4**: available in the following lengths: 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20 m (16.40, 19.69, 22.97, 26.25, 29.53, 32.81, 36.09, 39.37, 42.65, 45.93, 49.21, 52.49, 55.77, 59.06, 62.34, and 65.62 ft).*
*Item nº **5**: available in the following lengths: 1, 2, 3, 4, 5, 6, 7, 8, 9, and 10 m (3.28, 6.56, 9.84, 13.12, 16.40, 19.69, 22.97, 26.25, 29.53, and 32.81 ft).*

Connectors – description



1 HyCon3 D0 connector
2 HyCon3 D1/D2 connector
3 RJ45 connector

Cable outlet	
On ILM62DB Distribution box	On Lexium 62 ILD detached servo drive

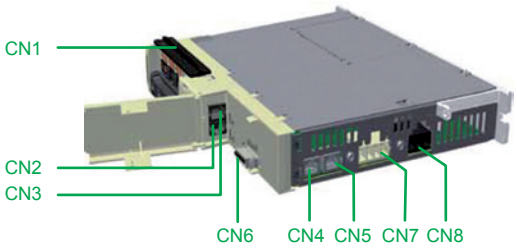


PacDrive 3 automation solution

Lexium 62 ILD detached servo drives

Lexium 62 ILM Connection module

Lexium 62 ILM Distribution box



Lexium 62 ILM Connection module – presentation

type	ILM62CMD20A000
Input current	20 A
Output current	20 A
Continuous output	0.95 kW / *1.273 hp*
DC bus input voltage	250…700 Vdc
DC bus output voltage	250…700 Vdc
Control voltage	24 Vdc (-20%… +25%)
Inverter Enable input voltage	24 Vdc (-20%… +25%)
Inverter Enable output voltage	40 Vac
Inverter Enable output current	2 A
Cooling	Passive
Housing dimensions (D x W x H)	270 x 44.5 x 310 mm (*10.630 x 1.752 x 12.205 in.*)
Protection rating	IP 20

Lexium 62 ILM Connection module – decription

Connector	Function
CN1	Busbar module
CN2/CN3	Sercos communication to power supply and additional Connection modules
CN4	Inverter Enable 24 Vdc
CN5, CN6	Sercos communication to Lexium 62 ILD detached drive and Distribution boxes
CN7	Inverter Enable signal output / 24 Vdc output
CN8	DC bus output

Lexium 62 ILM Connection module – Reference

Designation	Use	Reference	Weight kg/*lb*
Lexium 62 ILM Connection module ***item no 2***, *see page 5*	To connect the Lexium 62 ILD with Sercos and DC bus	**ILM62CMD20A000**	3.000/ *6.61*

Lexium 62 ILM Distribution box – Presentation

type	ILM62DB4A000
Input current	20 A
Output current	20 A
DC bus input voltage	250…700 Vdc
DC bus output voltage	250…700 Vdc
Control voltage	24 Vdc (-20%… +25%) / Max. 20 A
Inverter Enable input voltage	24 Vdc (-20%… +25%)
Inverter Enable output voltage	40 Vac
Inverter Enable output current	2 A
Housing dimensions (D x W x H)	151.4 x 230 x 94 mm (*5.961 x 9.055 x 3.701 in.*)
Protection rating	IP 65
Sercos speed rate	100 Mbps

ILM62DB4A000 with 5 x VW3E6023

Lexium 62 ILM Distribution box – decription

Connector	Function
CN1	Input (Connection module or Distribution box)
CN2, CN3, CN4, CN5	Output (Distribution box or Lexium 62 ILD detached servo drive)

Lexium 62 ILM Distribution box – References

Designation	Use	Reference	Weight kg/*lb*
Lexium 62 ILM Distribution box ***item no 3***, *see page 5*	To connect several Lexium 62 ILD with Sercos and DC bus	**ILM62DB4A000**	0.850/ *1.88*
Sercos bridge plug ***item no 7***, *see page 5*	For Distribution box (to be ordered separately: not included in ILM62DB4A000)	**VW3E6023**	0.784/ *1.73*

The Next Generation

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