



Lexium 62 ILM integrated drive range



- 1 Lexium 62 ILM connection module
- 2 Lexium 62 ILM distribution box
- 3 Lexium 62 ILM integrated drive
- 4 Lexium 62 ILM safety option module
- 5 Hybrid cable



- > Various dimensions with peak torques of up to 55 Nm (more than 40.57 ft-lbf)
- > Can be combined with single and double drives using a shared power supply
- > 70% shorter cable lengths
- > 90% less wiring time required in the control cabinet
- > 50% less cable installation required in the machine
- > Option module for embedded safety functions STO, SS1, SOS, SS2, SMS, SLS, SDI available

Presentation

The Lexium ILM 62 integrated drive and motor bundle is more than just compact:

- Quick interconnects and hybrid cables for signal and power level
- Automatic network configuration
- Diagnostic functions

Servo modules move servo drives out of the control cabinet and into the field. This reduces wiring and cabling requirements in the control cabinet by up to 90%.

- 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 CM feeds power, 24 V for controls and brakes, Inverter Enable and Sercos to the Lexium 62 ILM integrated drive from the same DC bus power supplies as the Lexium 62.

Lexium 62 ILM integrated drives use a flexible approach to cabling, consisting of pre-terminated hybrid cables and Lexium 62 ILM distribution boxes. The network itself is configured as a plug-and-play solution. Compared to conventional servo solutions, this reduces the required cabling by up to 70%, and the labor required for installing the servo solution in the machine frame is reduced by approximately 50%. Lexium 62 ILM integrated drives are the key element in modular machine design. They permit modular design of mechanics, software, and even electronics. This makes Lexium 62 ILM integrated drive an ideal solution for machines with a variety of optional mechatronic modules. Except for additional power supply units that may be required, any later addition of modules to a machine requires no changes in the control cabinet.

> Lexium 62 ILM integrated drive benefits

- Quick interconnects and hybrid cables for signal and power level
- Plug & Play technology
- Up to 90% less cabinet space
- Up to 90% less wiring time
- Up to 70% less cabling

> Peak torques of 3.5 to 55 Nm (2.58 to 40.57 ft lbf)

Lexium 62 ILM integrated drives are available in flange sizes of 70, 100, and 140 mm (2.76, 3.94, and 5.52 in.).

Thus they will fully cover a holding torque range of 1.1 to 12.5 Nm (0.81 to 9.22 ft lbf) and/or a peak torque of 3.5 to 55 Nm (2.58 to 40.57 ft lbf).

The models are software-compatible with one another and with Lexium 62 and Lexium 52 series servo drives. Additional options include an integrated holding brake, a feathered key groove, and a multi-turn encoder.

The addition of a shaft seal can increase the protection rating from IP54 to IP65.

> Lexium 62 ILM integrated drive main characteristics

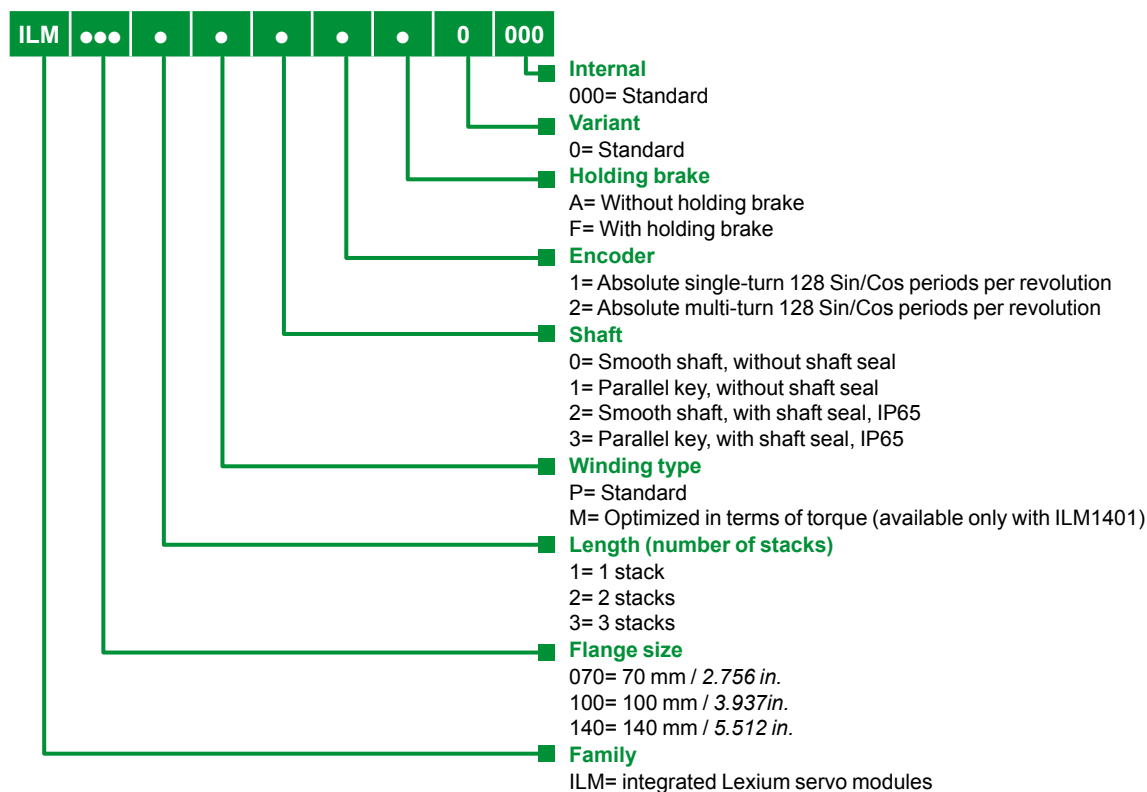
- Supply voltage: 250...700 VDC
- 560 VDC Nominal / rated
- Control voltage: 24 VDC (-20%... +25%)
- Brake supply voltage: 24 VDC (-20%... +25%)
- Cooling: passive
- Protection: IP65

> Smaller control cabinets



With intelligent servo modules, the servo drives are mounted on the machine frame, leaving only the controller and the shared power supply inside the control cabinet.

Lexium 62 ILM integrated servo drive – type code



Lexium 62 ILM integrated drive – references

Designation	Rated servo motor output power Pn		Continuous stall torque Mo		Rated torque Mn	Peak stall torque Mmax	Continuous current Io	Rated current In	Peak current Imax	Rotor moment of inertia Jm	Holding brake moment of inertia Jbr	Rated speed Nn	Reference	Weight (without options)	
	kW	hp	Nm	ft-lbf			Arms			kg cm ²	kg cm ²	rpm		kg	lb
Motor	0.31	0.415	1.1	0.811	0.5	3.5	1.55	0.6	5.7	0.25	0.1	6000	ILM0701P	2.7	5.952
	0.72	0.965	1.7	1.253	1.15	7.6	2.5	1.5	11.8	0.41	0.1	6000	ILM0702P	3.4	7.496
	0.72	0.965	2.2	1.622	1.15	8.7	3	1.5	12	0.58	0.3	6000	ILM0703P	4.2	9.259
	0.6	0.804	2.5	1.843	1.9	9.6	1.8	1.4	7.4	1.4	0.7	3000	ILM1001P	4.9	10.803
	0.91	1.219	4.4	3.245	2.9	18.3	2.9	2	13.1	2.31	0.7	3000	ILM1002P	6.4	14.110
	1.1	1.474	5.8	4.277	3.5	28.3	3.6	2.4	21.2	3.22	0.7	3000	ILM1003P	8.1	17.857
	1.45	1.943	7.5	5.531	4.6	27	4.7	2.9	18.8	7.41	1.3	3000	ILM1401P	12.5	27.558
	1.3	1.742	8.5	6.269	8.3	27	3.2	3.15	14.6	7.41	1.3	1500	ILM1401M	12.5	27.558
	1.91	2.560	12.5	9.219	9.1	55	4.8	3.7	24	12.68	1.3	2000	ILM1402P	17.2	37.920

PacDrive 3 automation solution

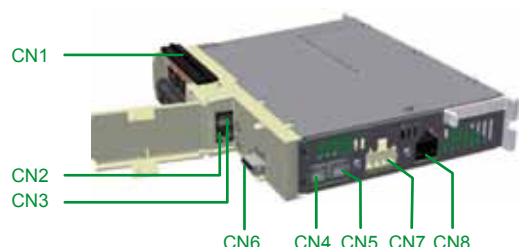
Lexium 62 ILM integrated drive

Lexium 62 ILM connection module,

Lexium 62 ILM distribution box

Lexium 62 ILM connection module – presentation

type	ILM62CMD20A000
Input current A	20
Output current A	20
Continuous output kW/hp	0.95 / 1.273
DC bus input voltage VDC	250...700
DC bus output voltage VDC	250...700
Control voltage VDC	24 VDC (-20%... +25%)
Inverter Enable input voltage VDC	24 (-20%... +25%)
Inverter Enable output voltage VAC	40
Inverter Enable output current A	2
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 – description

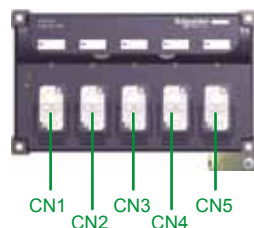
Connector	Function
CN1	Busbar module
CN2/CN3	Sercos communication to power supply and additional connection modules
CN4	Inverter Enable 24 VDC
CN5, CN6	Sercos communication to Lexium 62 ILM and Lexium 62 ILM distribution boxes
CN7	Inverter Enable signal output / 24 VDC output
CN8	DC bus output

Lexium 62 ILM connection module – reference

Designation	Use	Reference	Weight kg/lb
Lexium 62 ILM connection module	To connect the Lexium 62 ILM with Sercos and DC bus	ILM62CMD20A000	3.000/ 6.61

Lexium 62 ILM distribution box – Presentation

type	ILM62DB4A000
Input current A	20
Output current A	20
DC bus input voltage VDC	250...700 VDC
DC bus output voltage VDC	250...700 VDC
Control voltage VDC	24 VDC (-20%... +25%) / Max. 20 A
Inverter Enable input voltage VDC	24 (-20%... +25%)
Inverter Enable output voltage VAC	40
Inverter Enable output current A	2
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 – description

Connector	Function
CN1	Input (Lexium 62 ILM connection module ILM62CM or Lexium 62 ILM distribution box ILM62DB)
CN2, CN3, CN4, CN5	Output (Lexium 62 ILM distribution box ILM62DB or Lexium 62 ILM integrated drive)

Lexium 62 ILM distribution box – references

Designation	Use	Reference	Weight kg/lb
Lexium 62 ILM distribution box	To connect several Lexium 62 ILM with Sercos and DC bus	ILM62DB4A000	0.850/ 1.88
Sercos bridge plug	For distribution box (to be ordered separately: not included in ILM62DB4A000)	VW3E6023	0.784/ 1.73

PacDrive 3 automation solution

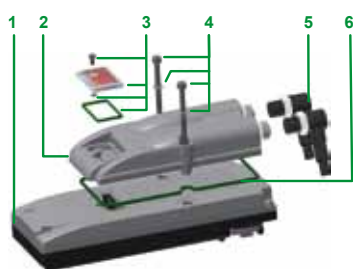
Lexium 62 ILM integrated drive

Lexium 62 ILM digital I/O module (option module),

Lexium 62 ILM safety module (option module)

Lexium 62 ILM digital I/O module: option module for Lexium 62 ILM integrated drive – presentation

type	VW3E702100000
Digital inputs/outputs	8 digital inputs or outputs (IEC 61131-2 type I) ☐ 2 inputs configurable as touch probe ☐ 4 outputs configurable as digital output
Input voltage VDC	☐ Range UIN 0 Voltage -3...5 VDC ☐ Range UIN 1 Voltage 15...30 VDC
Output voltage VDC	$(+U_L - 3V) < U_{OUT} < +U_L$
Control voltage VDC	24 VDC (-15%/+20%) ☐ with internal I/O supply: max. 300 mA, ☐ with external I/O supply: max. 80 mA
Overall module current across the 8 inputs/outputs	■ with internal I/O supply: 0.1 A ■ with external I/O supply: 2.0 A
Certifications	CE, cULus
Protection rating	IP 65



VW3E702100000

Lexium 62 ILM digital I/O module – description

Connector	Function
1	Lexium 62 ILM servo module
2	Lexium 62 ILM digital I/O module
3 (1)	Torx M3x6 screw, protective cover, o-ring seal 2.5x 0.6 mm (0.1 x 0.02 in), protective cover gasket
4 (2)	2x hexagon socket screw M4x50, 2x serrated lock washers M4
5	M12 connector (VW3E4001R030 I/O cable)
6 (2)	1x sealing ring for digital I/O module

Lexium 62 ILM digital I/O module – reference

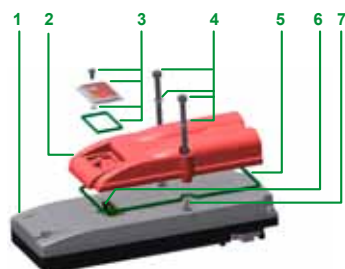
Designation	Description	Reference	Weight kg/lb
Lexium 62 ILM digital I/O module	■ 8 digital inputs or outputs (IEC 61131-2 type I) ☐ 2 inputs configurable as touch probe ☐ 4 outputs configurable as digital output	VW3E702100000	0.480/ 1.06

Accessories for Lexium 62 ILM digital I/O module – reference

Designation item	Description	Reference	Weight kg/lb
I/O cable	■ with M12 connector, angled ■ Length: 3 m (9.843 ft)	VW3E4001R030	0.215/ 0.47
Terminal block connector	For ABE9 IP67 passive splitter box	ABE9CM12C	0.040/ 0.09
IP67 passive splitter box	With 4 channels, M12 connector type	ABE9C1240M	0.060/ 0.13

Lexium 62 ILM safety module: option module for Lexium 62 ILM integrated drive – presentation

type	VW3E702200000
Safe Motion functions management (via Sercos bus)	Safe Torque off (STO), Safe Stop 1 (SS1), Safe Operating Stop (SOS), Safe Stop 2 (SS2), Safe Maximum Speed (SMS), Safely-Limited Speed (SLS), Safe Direction Indication (SDI)
Certifications	CE, CSA, UL, TÜV, EAC
Standards	EN 61800-3, EN 61800-5-1, EN 61800-5-2, EN ISO 13849-1, EN ISO 13849-2, EN 62061, IEC 61508, IEC 62061, UL 508C, CSA C22.2 No. 14
Protection rating	IP 65



VW3E702200000

Lexium 62 ILM safety module – description

Connector	Function
1	Lexium 62 ILM servo module
2	Lexium 62 ILM Safety option module
3	Torx M3x6 screw, protective cover, insulating washer, 2.5 x 0.6 mm (0.1 x 0.02 in), protective cover gasket
4	2x hexagon socket screw M4x50, 2x serrated lock washers M4
5	1x sealing ring for Safety module
6	Jumpers (J1, J2)
7	2x pressure springs with inner diameter 5 mm (0.20 in) / outer diameter 8 mm (0.31 in) / height 8 mm (0.31 in)

Lexium 62 ILM safety module – reference

Designation	Description	Reference	Weight kg/lb
Lexium 62 ILM safety module (3)	■ To manage the Safe Motion functions via Sercos bus	VW3E702200000	0.760/ 1.67

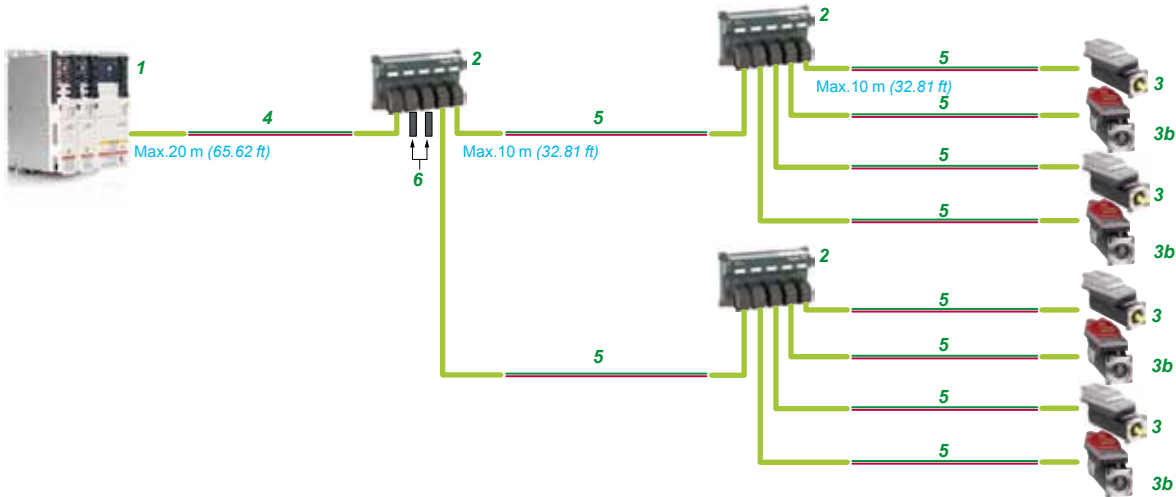
(1) M3x6 screw, protective cover, o-ring seal (2.5x 0.6), protective cover gasket are provided with Lexium 62 ILM drive electronic unit.

(2) hexagon socket screw M4x50, serrated lock washers M4 are provided with the Digital I/O module.

(3) Delivered with 1x sealing ring, 2x hexagon socket screws M4x50, 2x serrated lock washers M4, 2x pressure springs.

Hybrid cabling examples

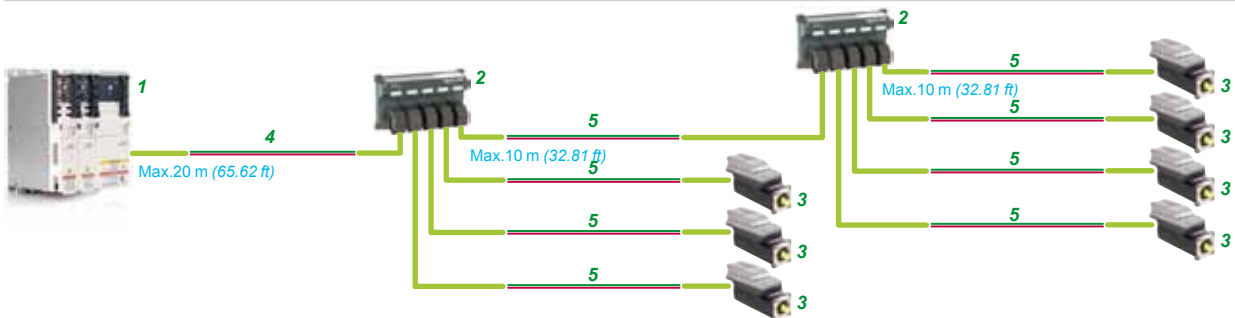
Example 1



- 1 Lexium 62 ILM connection module ILM62CM
 2 Lexium 62 ILM distribution box ILM62DB
 3 Lexium 62 ILM integrated drive
 3b Lexium 62 ILM integrated drive + Lexium 62 ILM Safety module
 4 Hybrid cable ILM62CM – ILM62DB4 (1)
 5 Hybrid cable ILM62DB4 – ILM or ILM62DB4 – ILM62DB4 (1)
 6 Sercos bridge (2)

(1) Various connector directions available (D1: left, D2: right, D0: straight).
 (2) Any unused Lexium 62 ILM distribution box ILM62DB connection must be terminated with a Sercos bridge.

Example 2



- 1 Lexium 62 ILM connection module ILM62CM
 2 Lexium 62 ILM distribution box ILM62DB
 3 Lexium 62 ILM integrated drive
 4 Hybrid cable ILM62CM – ILM62DB4 (1)
 5 Hybrid cable ILM62DB4 – ILM or ILM62DB4 – ILM62DB4 (1)

(1) Various connector directions available (D1: left, D2: right, D0: straight).

Lexium 62 ILM hybrid cable – references

Lexium 62 ILM hybrid cables includes cables for: DC bus, Sercos, 24 V, Inverter Enable signal.

Cable between (1) and (2)	item no	Connector (1)	Connector (2)	Standard length m / ft	Reference (●●● x 0.1 m)	Weight kg/lb
Connection module	4	–	D0 (straight)	5 / 16.40	VW3E1147R●●●	–
			D1 (left)	5 / 16.40	VW3E1141R●●●	–
			D2 (right)	5 / 16.40	VW3E1146R●●●	–
Distribution box	5	D1 (left)	D0 (straight)	2 / 32.81	VW3E1149R●●●	–
			D1 (left)	2 / 32.81	VW3E1142R●●●	–
			D2 (right)	2 / 32.81	VW3E1148R●●●	–
			D2 (right)	2 / 32.81	VW3E1150R●●●	–
			D0 (straight)	2 / 32.81	VW3E1151R●●●	–
			D2 (right)	2 / 32.81	VW3E1152R●●●	–
			D2 (right)	2 / 32.81	VW3E1152R●●●	–

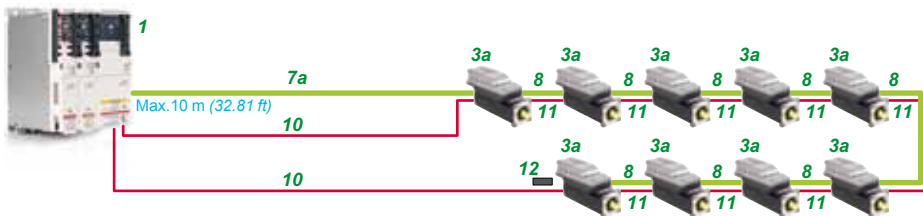
Note: Item no 4: available in the following lengths: 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, and 20 m (16.40, 19.69, 22.97, 26.25, 29.53, 32.81, 36.09, 39.37, 42.65, 45.93, 49.21, 52.49, 55.77, 59.06, 62.34, and 65.62 ft).
 Item no 5: available in the following lengths: 1, 2, 3, 4, 5,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

Cable outlet on distribution box ILM62DB	on ILM integrated drive	Specifications ILM system	Max. distance (m / ft)
		Between ILM62CM and ILM62DB4	20 / 65.62
		Between ILM62DB4 and ILM62DB4	10 / 32.81
		Between ILM62DB4 and Lexium 62 ILM integrated drive	10 / 32.81
		Between two active Sercos slaves (1)	50 / 164.04
		Total of cable lengths	200 / 656.17

(1) Lexium 62 ILM connection module ILM62CM and distribution module ILM62DB are not active Sercos slaves.

Daisy chain cabling examples

Example 3

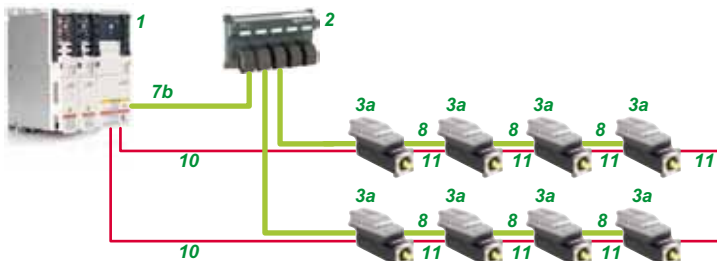


- 1 Lexium 62 ILM connection module ILM62CM
- 3a Lexium 62 ILM integrated drive with daisy chain connection box Type A, B or C
- 7a Power cable ILM62CM – ILM (terminals – M23)
- 8 Power cable ILM – ILM (M23 – M23)
- 10 Sercos cable ILM62CM – ILM (RJ45 – M12)
- 11 Sercos cable ILM – ILM or ILM62DB4 – ILM (M12 – M12)
- 12 Protective cap for power cable connection (1)

Max. 9 ILM servo drives can be linked in one daisy chain line.

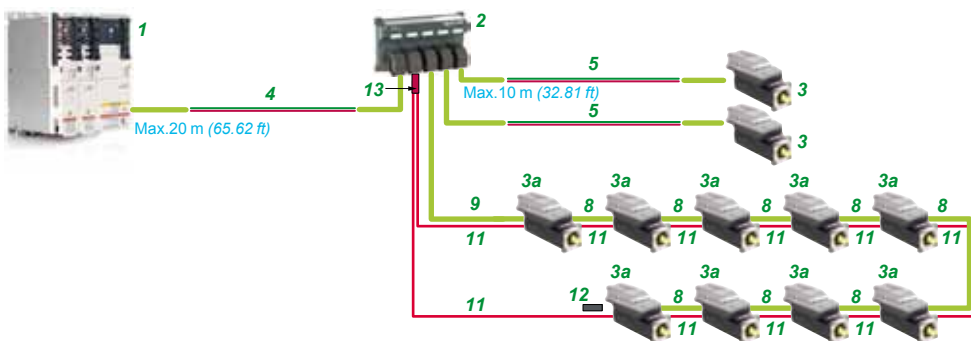
(1) Each ILM daisy chain line must be terminated with a protective cap for the power cable connection.

Example 4



- 1 Lexium 62 ILM connection module ILM62CM
- 2 Lexium 62 ILM distribution box ILM62DB
- 3a Lexium 62 ILM integrated drive with daisy chain connection box Type A, B or C
- 7b Power cable ILM62CM – ILM62DB4
- 8 Power cable ILM – ILM (M23 – M23)
- 10 Sercos cable ILM62CM – ILM (RJ45 – M12)
- 11 Sercos cable ILM – ILM or ILM62DB4 – ILM (M12 – M12)

Example 5



- 1 Lexium 62 ILM connection module ILM62CM
- 2 Lexium 62 ILM distribution box ILM62DB
- 3 Lexium 62 ILM integrated drive
- 3a Lexium 62 ILM integrated drive with daisy chain connection box Type A, B or C
- 4 Hybrid cable ILM62CM – ILM62DB4 (1)
- 5 Hybrid cable ILM62DB4 – ILM or ILM62DB4 – ILM62DB4 (1)
- 8 Power cable ILM – ILM (M23 – M23)
- 9 Power cable ILM62DB4 – ILM (DB-connector – M23)
- 11 Sercos cable ILM – ILM or ILM62DB4 – ILM (M12 – M12)
- 12 Protective cap for power cable connection (2)
- 13 Sercos distribution connector on ILM62DB4

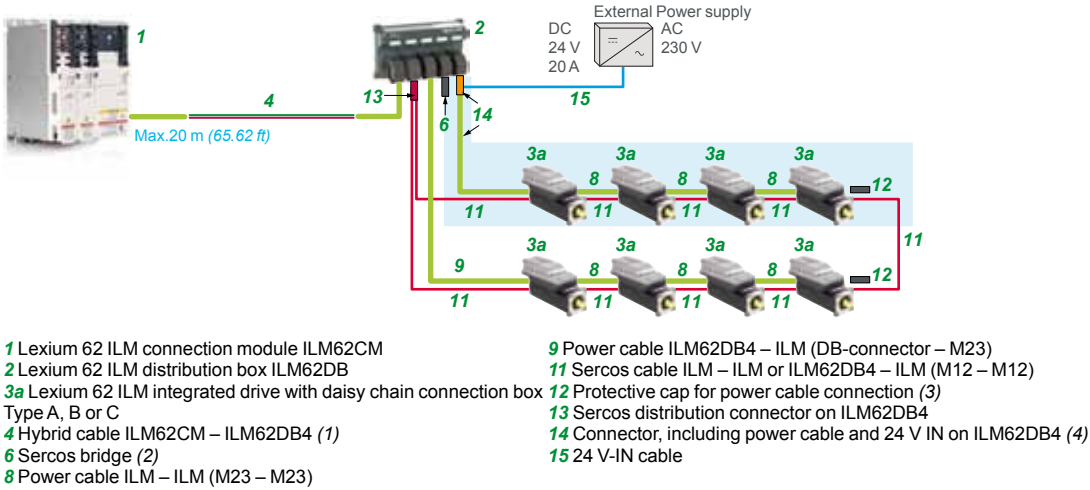
Max. 36 Lexium 62 ILM integrated drives can be connected on one distribution box and four daisy chain lines.

(1) Various connector directions available (D1: left, D2: right, D0: straight).

(2) Each ILM daisy chain line must be terminated with a protective cap for the power cable connection.

Daisy chain cabling examples

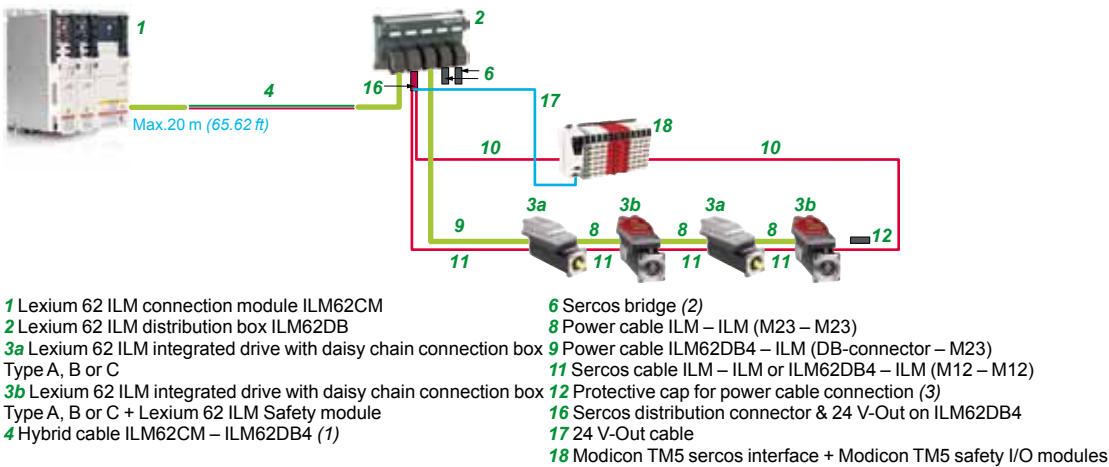
Example 6: 24 V IN to ILM62DB4 distribution module



Max. 36 Lexium 62 ILM integrated drives can be connected on one distribution box and four daisy chain lines.

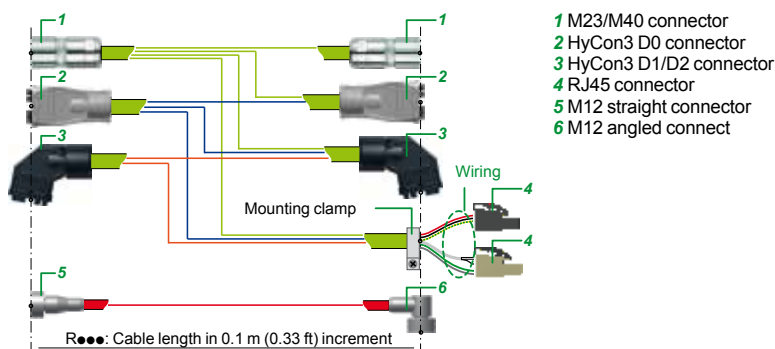
- (1) Various connector directions available (D1: left, D2: right, D0: straight).
- (2) Any unused Lexium 62 ILM distribution box ILM62DB connection must be terminated with a Sercos bridge.
- (3) Each ILM daisy chain line must be terminated with a protective cap for the power cable connection.
- (4) Separate 24V-supply – only for daisy chain line on this connector.

Example 7: Sercos and 24 V OUT on ILM62DB4 distribution module



- (1) Various connector directions available (D1: left, D2: right, D0: straight).
- (2) Any unused Lexium 62 ILM distribution box ILM62DB must be terminated with a Sercos bridge.
- (3) Each ILM daisy chain line must be terminated with a protective cap for the power cable connection.

Connectors – description



Cable outlet

on distribution box ILM62DB on ILM integrated drive

