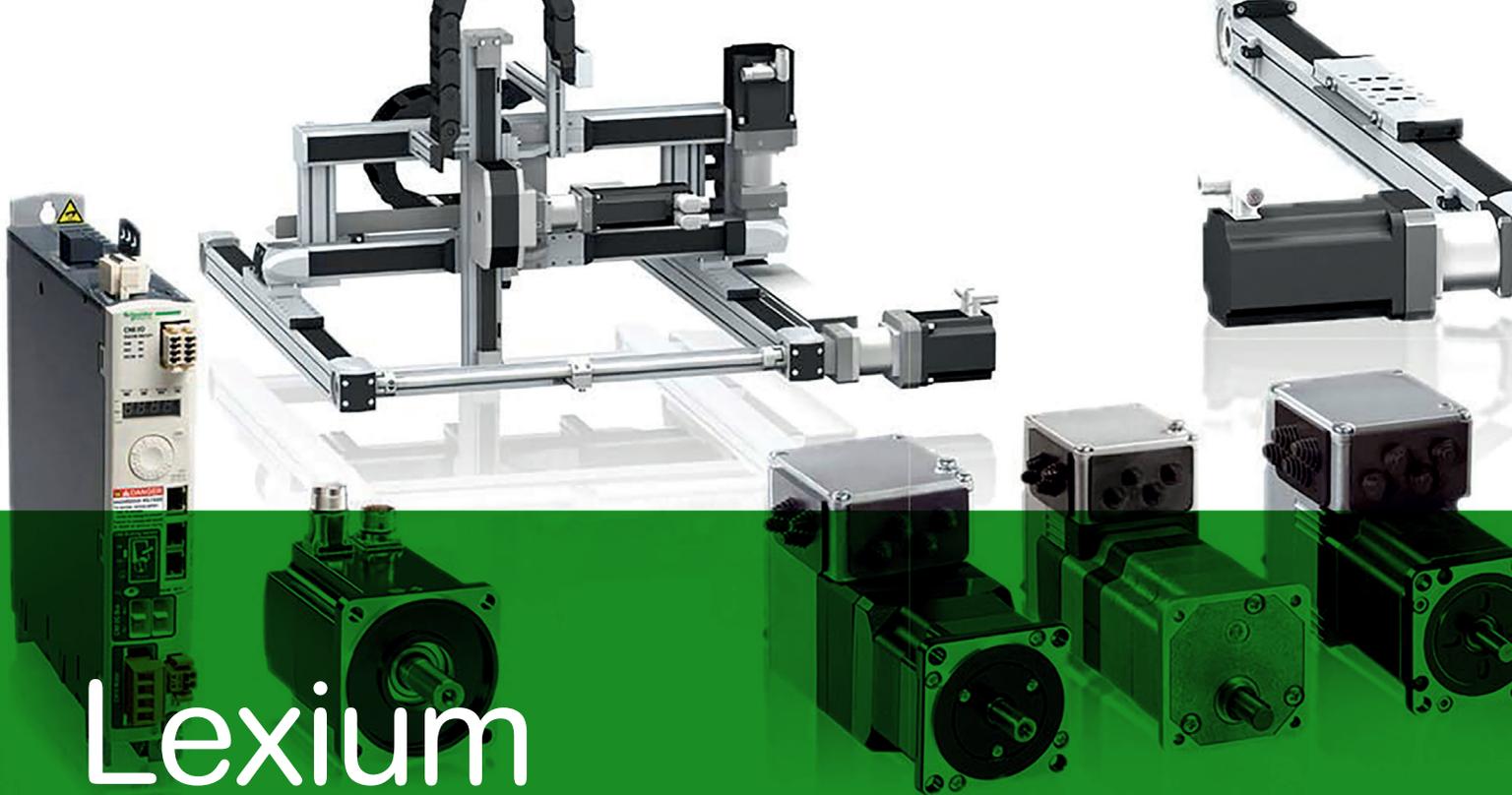




Lexium™ MC12 multi carrier

The multi carrier transport system



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Lexium servo drives, motors, and robotics series are designed for a broad range of motion-centric machines. From single-axis to high-performance multi-axis machines, the **Lexium** range enables high-speed movements and precise positioning in packaging, material handling, material working, electronics, and food and beverage applications.

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References

Modicon TM3
I/O expansion modules for Modicon controllers
Analog I/O modules

Number and type of channels	Input range	Output range	Resolution	Input format (internal)	Reference	Weight (kg)
2 voltage/current inputs	-15...+10 VDC 0...20 mA r.t. 20 mA	16.00V or 12.00V r.t.	16.00V or 12.00V r.t.	Source	TM3AI2H	0.110
4 voltage/current inputs	-15...+10 VDC 0...20 mA r.t. 20 mA	16.00V or 12.00V r.t.	16.00V or 12.00V r.t.	Source	TM3AI2G	0.100
4 voltage/current inputs	-15...+10 VDC 0...20 mA r.t. 20 mA	16.00V or 12.00V r.t.	16.00V or 12.00V r.t.	Source	TM3AI2A	0.100
4 differential temperature inputs (I ² C, R, S, T, N, C, L, E, C)	Thermopiles or thermistance (PT100, RTD, PT1000, NTC, PTC)	16.00V or 12.00V r.t.	16.00V or 12.00V r.t.	Source	TM3T10	0.110
4 differential temperature inputs (I ² C, R, S, T, N, C, L, E, C)	Thermopiles or thermistance (PT100, RTD, PT1000, NTC, PTC)	16.00V or 12.00V r.t.	16.00V or 12.00V r.t.	Source	TM3T10G	0.100
8 self-diagnosing	-15...+10 VDC	16.00V or 12.00V r.t.	16.00V or 12.00V r.t.	Source	TM3L16	0.110

Share Price Global (English)

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TM3AI2H

Module TM3 - 2 analog inputs high resolution

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Characteristics Documents and Downloads Technical FAQs Additional Information Dimensions Drawings >

Main

range of product Modicon TM3

product or component type Analog input module

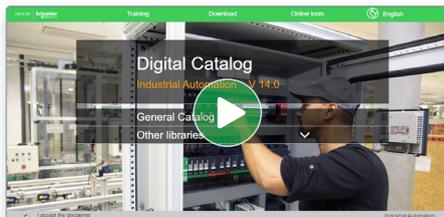
range compatibility Modicon M251

Modicon M251

Each commercial reference presented in a catalog contains a hyperlink. Click on it to obtain the technical information of the product:

- Characteristics, Dimensions and drawings, Mounting and clearance, Connections and schemas, Performance curves
- Product image, Instruction sheet, User guide, Product certifications, End of life manual

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Lexium™ MC12 multi carrier The multi carrier transport system

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- Grouping,	
- Stacking,	
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To be competitive in today's digital era, machine builders must be innovative. Smart machines, those that are better connected, more flexible, more efficient, and safe, are enabling machine builders to innovate in ways never before possible.

EcoStruxure, Schneider Electric's open, IoT-enabled architecture and platform, offers powerful solutions for the digital era. As part of this, EcoStruxure Machine brings powerful opportunities for machine builders and OEMs, empowering them to offer smart machines and compete in the new, digital era.

EcoStruxure Machine brings together key technologies for product connectivity and edge control on premises, and cloud technologies to provide analytics and digital services. EcoStruxure Machine helps you bring more innovation and added value to your customers throughout the entire machine life cycle.

Innovation at Every Level for Machines is full systems across three layers:

- Connected products
Our connected products for measuring, actuating, device level monitoring, and control adhere to open standards to provide unmatched integration opportunities and flexibility
- Edge Control
We are IIoT-ready with a proven set of tested and validated reference architectures that enable the design of end-to-end open, connected, and interoperable systems based on industry standards. Ethernet and OPC UA facilitates IT/OT convergence meaning machine builders reap benefits from web interfaces and cloud.

- Apps, Analytics & Services
Seamless integration of machines to the IT layer allows the collection and aggregation of data ready for analysis – for machine builders and end users alike this means increased uptime and the ability to find information faster for more efficient operations and maintenance.

These levels are completely integrated from shop floor to top floor. And we have cloud offers and end-to-end cybersecurity wrapped around.

EcoStruxure Machine makes it easier for OEMs/ machine builders to offer their customers smarter machines. The advent of smart machines is driven by the changing needs of end users:

- Evolving workforce
- Reducing costs
- Dynamic markets
- Shorter life cycles
- Prioritizing safety and cybersecurity

EcoStruxure Machine provides one solution for the whole machine life cycle:

- With Smart Design & Engineering the time to market is reduced by up to 30% using our automated engineering and the simulation capabilities
- During Commissioning & Operation of the machine, resources such as energy, material and loss can be improved, and with seamless integration to the IT world efficiency can be improved by up to 40%
- Smart Maintenance & Services reduces the time for corrective actions up to 50%

EcoStruxure™ Machine



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Lexium MC12 multi carrier

The multi carrier transport system

Specifications

Specifications of Lexium MC12 multi carrier



Lexium MC12 multi carrier transport system

Lexium MC12 multi carrier is an innovative transport system to be used in machines. It uses latest linear motion technology to move products individually through the machine. These individual movements allow for new machine designs making machines faster, more flexible and space efficient.

New level of performance & flexibility for more sustainability

- Less format specific parts needed, a big step ahead in direction of toolless change over at a push of a button
- Leap in flexibility, larger variety of products can be run on the same machine

Simplified operation and maintenance

- Integral part of PacDrive 3 system diagnostic mechanisms
- Automatic configuration after replacement of segments or carriers
- Enhanced diagnostics and commissioning with EcoStruxure Machine Expert software
- Mobile app for diagnostics (Industrial Device)
- Integral part of Schneider Electric’s solution for remote monitoring/health monitoring and predictive maintenance (Machine Advisor)
- Modular mechanical design for quick replacements

Differentiation & saving time in machine design for less time to market

- Game changer for machine design
Next generation of multi carrier system, providing new leeway for even better machine designs
- The evolution – mechanical camming – electronic camming – no camming – is providing new unknown potential for more flexible machines with less footprint!
- Efficient engineering and life cycle management with a single and well-known engineering tool
- Shorter time to market though easy and time saving mechanical/electrical/program implementation
- Virtual commissioning to verify machine behavior in an early implementation phase
- Transportation, grouping and positioning of products is completely decoupled from the machine cycle

Increasing the Overall Equipment effectiveness of machine

- Higher flexibility – more formats per machine and simplified change over procedures with less format specific part
- Optimized maintenance by high-service-parts
- In summary resulting in higher machine uptime
- Better use of production space through machines with less footprint

Main fields of application

- Lexium MC12 multi carrier is transporting, grouping and positioning products in discrete processes for such typical applications:
 - > Packaging
 - Cartoning
 - Stacking (grouping)
 - Product flow adjustments (gap correction, position correction)
 - Filling, folding (tubes, bottles, pouches, ...)
 - Labelling
 - > Food processing
 - Applying
 - Cutting
 - > Assembly
 - Mechatronical products
 - Pharmaceutical products
 - > Material handling



Packaging application



Food processing application

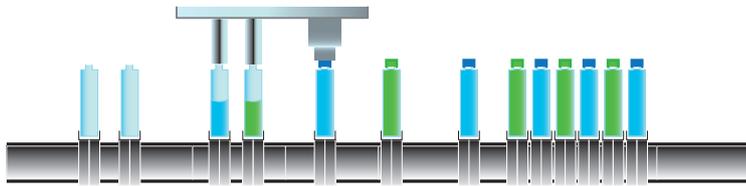


Material handling application

Examples of multi carrier applications

The Lexium MC12 multi carrier system is a transport system for moving, positioning or grouping objects in machines for discrete processes.

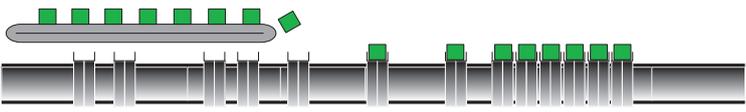
Filling with multi carrier



Filling

- Multi carrier replaces transportation chain
- Individual bottle movements
- Bottles move twice as fast through capping station
- Smaller gaps between products outside processing stations reduces footprint
- Clamping for different bottle diameters increases flexibility
- Less stations (cost savings)
- More compact
- Faster and simplified format change

Grouping with multi carrier



Grouping

- Products can be loaded on the fly
- Pocket size can be adjusted to adapt to formats or to simplify loading
- Products move individually, high performance, increasing group size does not impact performance
- Buffer between loading and unloading station can compensate jitter in product flow
- Flexible grouping patterns

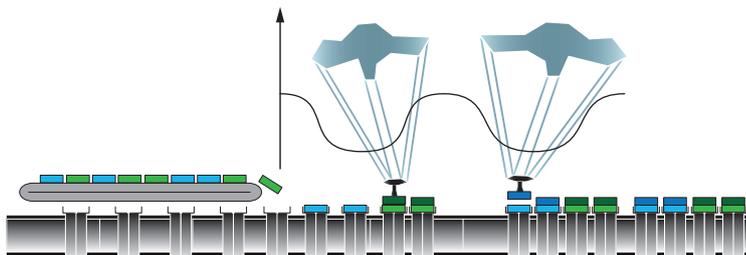
Stacking with multi carrier



Stacking and Grouping

- Pocket "grows" with products put into pocket
- Different products from different infeed stations can be stacked into same pocket
- Grouping of stacked products
- Products can be pushed together

Pick and Place with multi carrier



Pick and Place with variable speed of carrier

- More picks per min, products can be picked more often in robot sweet spot by slower speeds in working envelope and higher speeds during transfer (to next robot)
- Better accuracy, no belt slipping

Free movements

- A carrier can be moved freely throughout the track. It can brake, accelerate, position or exert a constant force when stationary or also in motion. Like any linear motor, the carrier can synchronize on other movements. When arranged in a circle, the carriers move endlessly following the flow of product.
- Several carriers can all be moved independently of each other. They can be positioned at absolute positions over the entire distance traveled. In addition, they can be moved relative to each other and avoid collisions with their neighbour.



Free movements

Lexium MC12 multi carrier

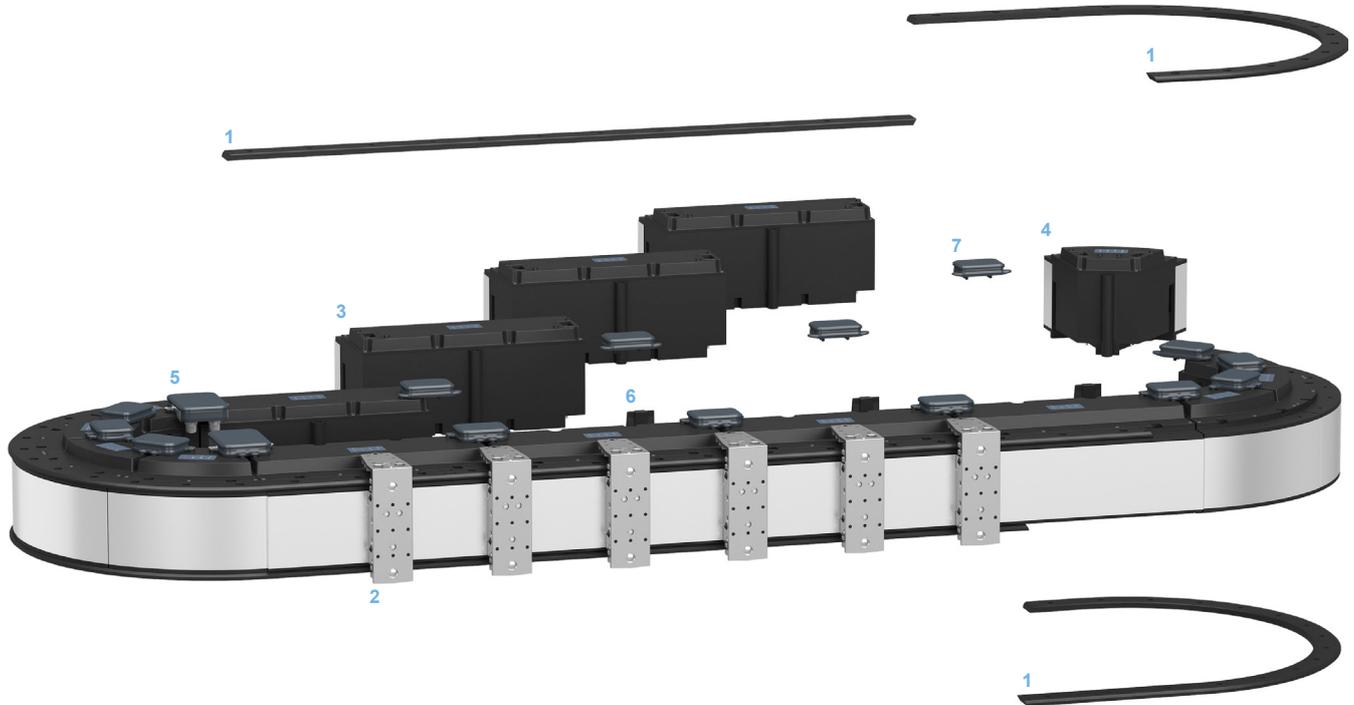
The multi carrier transport system

System components to create a track

System components to create a track

Lexium MC12 multi carrier is a modular system for machine applications and consists of long stator motors, on which multiple carrier units can be moved independently from each other.

- > The system components are designed for compact, modular, flexible and efficient machine designs. Lexium MC12 multi carrier can reduce engineering efforts, mechanical variants, and changeover time.
- > The components of Lexium MC12 multi carrier are mounted at the machine frame.



Guide rails 1

- > Same curve and straight guide rails are installed at top and bottom of the straight and curved long stator motor segments, used to handle the carriers. Guide rails are available in different length and can be combined freely.

Carriers 2

- > The carrier contains magnetic plates which, with the coil of the long stator motor segment can generate propulsive force. The encoder integrated in long stator motor segment measures the position of each carrier.
- > Up to 130 removable carriers can move on a same track. The motion of each carrier is independent from each other allowing different spacings, different cycle times, and different speeds (up to 4 m/s).
- > The minimal gap between two carriers is null.

Straight 3 and curve 4 longstator motor segments

- > These are linear motors with integrated power electronics and multi carrier position measurement. The longstator motor segments can be combined freely into open and closed tracks, and can be mounted from top on a base plate.
- > Integrated mechanical alignments simplify the mounting process.
- > No cabinet space is required for the drive electronics as it is integrated in the track segments.
- > Tracks can be designed in machines in horizontal or vertical position.
- > The maximum length of a track is 40 m (131.23 ft).
- > Each segment is equipped with electronic type plates which enables the controller to identify the segments and the resulting track geometry automatically.

Communication interconnect 5

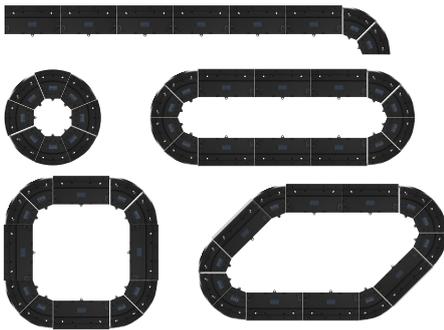
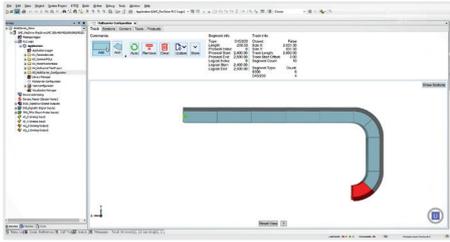
- > Communication interconnects are used to interconnect the straight or curve longstator motor segments and to support the transmission of the communication (Sercos), and of the SFO safety function (Safe Force Off).

Connection modules 6

- > The Connection modules ensure the overvoltage protection, and the supply voltage monitoring.

Power interconnects 7

- > Power interconnects are used to interconnect the straight or curve longstator motor segments, and to support the transmission of the DC power, ensuring a quick wiring.
- > When mounting two longstators, supply voltage is automaticly connected through.



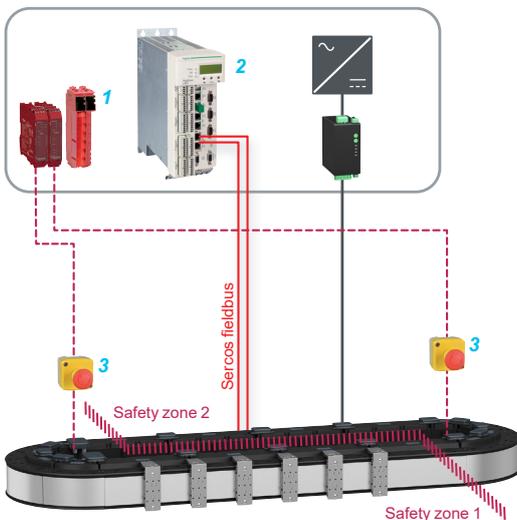
Available Open or closed track geometries



Vertical orientation



Horizontal orientation



Communication interconnects associated to Sercos 3 as provided by LMC Pro2 motion controller (2) and safe outputs: XPSMCMRO0004G, XPSMCMDO0004G modular safety modules and TM5SDO4TFS, TM5SDO4TAFS safety modules (1) combined with Harmony XB5 Emergency stop pushbuttons (3)

Setting up the system components

Designing a track

Shapes

- > Open tracks or closed tracks that can be realized with 300 mm (11.81 in) straight long stator motor segments and 200 mm (7.87 in) 45° outside curve long stator motor segments.
- > The Maximum track length is 40 m (131.23 ft).
- > The free space left inside a track allows the integration of additional equipment such as Scara robots or Delta robots, reduces the space of an installation, and ease the access for service or maintenance.
- > **Track's orientation**
 - Track can be mounted in vertical or Horizontal orientations.

Connecting a track

Communication interconnects

- > There are different interconnects available, e.g. to connect Sercos cables or to connect Safe Force Off signal.
- > The communication interconnects ensure the Sercos communication and Safety function:
 - Once connected, the interconnects eliminate further wiring
 - The Safe Force Off safety function complies with SIL 3 / PI e
 - Multiple safety zones are allowed with one connection per zone

Connection modules

- > Connection module are installed close to power supply, between power supply and power connector at track. They provide the internal DC Bus and power supply on tracks, they ensure the overvoltage protection, and the supply voltage monitoring.
- > The Internal DC Bus and the power supply (48 V DC) are automatically connected through when mounting two segments.
 - No wiring is required between the segments
 - Up to three 48 V power supplies can be installed in parallel according to the needs of application
 - The Power infeed is applied in parallel at straight and/or curves long stator segments

Power interconnects

- > There are different versions available, e.g. with a power connector to connect power to the track or a disconnecter which allows to split a track into different power zones.
- > The power interconnects ensure the power distribution in the track. They are mounted at the bottom side and provide an alignment aid helping to mount the long stator motor segments properly.

Lexium MC12 multi carrier

The multi carrier transport system

Complementary of offers

Complementary of offers

Control

> Lexium MC12 multi carrier is integrated into PacDrive 3 system, using PacDrive 3 motion controllers (LMC Pro2). Lexium MC12 becomes part of PacDrive 3 architecture.

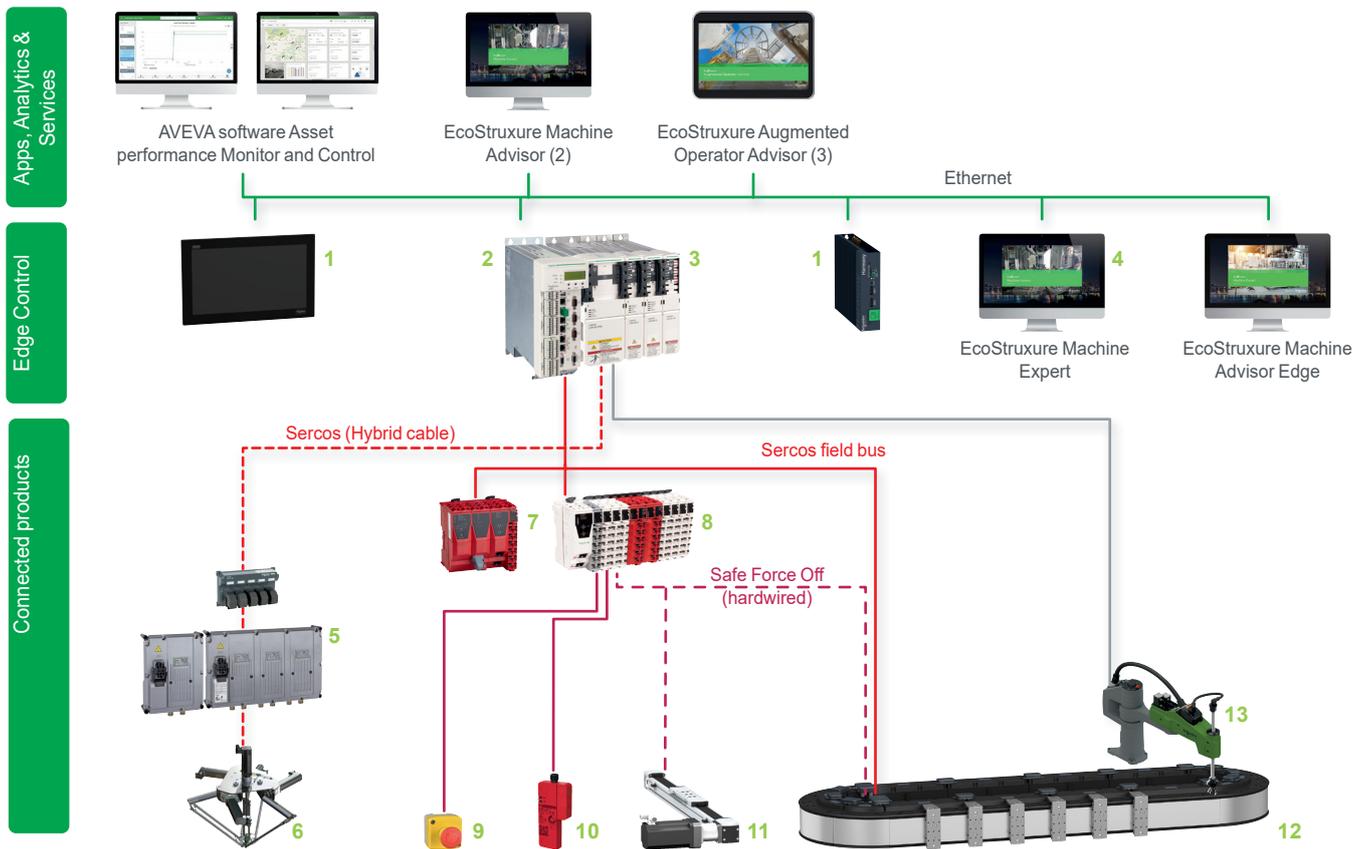
Configuration

> Lexium MC12 multi carrier applications can be developed and commissioned with dedicated application libraries (CAD, Eplan, Application function block, ...) embedded in EcoStruxure Machine Expert (1), Schneider Electric's single engineering environment for developing, configuring and commissioning complete automation solutions, with less time to market.
The multi dimensional software architecture allows visualization and simulation during the conception of a motion centric machine.

Related products

> Schneider Electric offers several ranges of robots and products (actuators, control systems) to complete a PacDrive 3 automation solution (1).

> The compact design of the Lexium MC12 multi carrier leaves space to mount additional equipment like Scara and Delta robots within closed tracks.



- | | |
|--|---|
| <p>1 Harmony iPC panel, Harmony Edge box</p> <p>2 PacDrive LMC Pro2: Motion controller for automating machines/lines with 0 - 130 servo or robot axes</p> <p>3 Lexium 62 Multi axis servo drive and power and servo motors, Lexium 62 ILM: integrated servo drives</p> <p>4 EcoStruxure Machine Expert: configuration software</p> <p>5 Lexium 62 ILD detached servo drives: single drive, triple drive</p> <p>6 Lexium P: Delta 3 robots for pick & place solutions</p> | <p>7 Modicon TM5CSLC: Safety logic controller</p> <p>8 Modicon TM5: Sercos interface module, safety IO expansion module, and IO expansion module (IP 20)</p> <p>9 Harmony XALD, XALK Plastic control stations combine with Harmony XB5 Emergency stop pushbuttons</p> <p>10 Telemecanique XCSR contactless RFID safety switches</p> <p>11 Lexium PAS: portal axes with fixed axis body</p> <p>12 Lexium MC12 multi carrier</p> <p>13 SCARA robot for fast positioning solutions</p> |
|--|---|



(1) For the mentioned offers, consult catalogs on [Digi-Cat](#).
 (2) More information on [EcoStruxure Machine Advisor: Digital Services for machines](#)
 (3) More information on [EcoStruxure Augmented operator Advisor: Augmented reality for instant diagnosis and contactless maintenance](#).

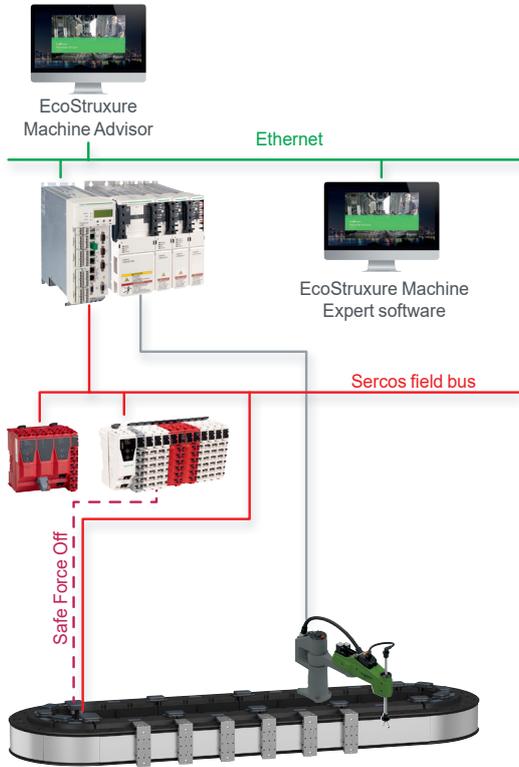
Lexium MC12 multi carrier

The multi carrier transport system

Communication, Embedded safety function SFO, Main characteristics

Sercos
the automation bus

- Cat 5e
- Baudrate: 100 Mbps
- Cycle time: 1...4 ms



Communication

Lexium MC12 multi carrier is communicating via Sercos automation bus. It is controlled by the PacDrive 3 LMC Pro2 motion controllers.

- Each carrier is handled as Sercos device by the system with a Sercos ID and a reserved area for communication, similar to a servo drive in configuration and application.

Embedded safety function SFO

Lexium MC12 multi carrier is an integral part of the Machine safety system with its drive embedded Safe Force Off (SFO) function.

- This function meets the requirements of SIL 3 according IEC 61800-5-2, IEC 62061 and IEC 61508 as well as up to category 3 and PL e according to EN ISO 13849-1.
- It simplifies the setup of installations requiring complex safety equipment and improves performance during maintenance operations.

Main characteristics (1)

Lexium MC12 multi carrier		
Peak Force (2)		120 N (26.97 lbf)
Total mass (3)		≤ 3 kg (6.61 lb)
Nominal mass of a carrier		0,8 kg (1.76 lb)
Max. payload per carrier		2.2 (4.85 lb)
Max. acceleration for 1 kg (2.204 lb)		120 m/s ² (393.70 ft/s ²)
Max. speed		4 m/s (13.12 ft/s)
Length	Straight longstator segment	300 mm (11.81 in)
	Curve longstator segment	200 mm (7.87 in) - Radius: 255 mm (10.04 in)
Repetitive accuracy (4)	Straight longstator segment	0.03 mm (0.001 in)
	Curve longstator segment	0.05 mm (0.002 in)
Absolute accuracy	Straight longstator segment	0.25 mm (0.009 in)
	Curve longstator motor	0.35 mm (0.013 in)
IP Class		65
Cleanroom Class (ISO / GMP)		5 / A targeted
Max. number of carriers	per track	Equals max. number of servo axis controller can handle (currently up to 130)
	per segment	6 on Straight longstator segment 4 on Curve longstator segment
Carrier	Width x Height	50 x 143 mm (1.96 x 5.63 in)
	Weight without load	0.8 kg (1.763 lb)
Max. track length		40 m (131.23 ft)

(1) More characteristics on [Product datasheet](#).

(2) Max. force generated in moving direction of carrier, Peak force can be increased by use of multiple carriers together.

(3) Mass of the carrier plus payload.

(4) Single carrier to single point accuracy.

Lexium MC12 multi carrier

The multi carrier transport system

System components



LXMMC12MS06S100



LXMMC12MA02S100



LXMMCACMD02S100



LXMMBCA001S100



LXMMCBDAF1S100



LXMMCBDA01S100



LXMMCBPAP01S100



LXMMCBQAP01S100



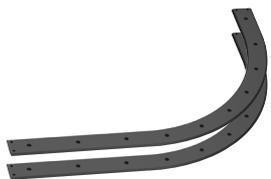
LXMMC12CA51S100



LXMMCRS0A06S100



LXMMCRABA62S100



LXMMCRABA64S100



LXMMCRABA66S100



LXMMCRABA68S100

System components

System components	Description	Reference <small>(Click on reference to get technical characteristics)</small>	Net weight kg lb
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Longstator motor segment

Longstator motor segment with an integrated drive, IP65	Straight segment	Length: 300 mm (11.81 in)	LXMMC12MS06S100	7.900 17.41
	Curve segment	45° arc	LXMMC12MA02S100	4.500 9.92

Connection module providing the internal DC Bus and power supply on tracks

Connection module	20 A continuous power to connect track to power supply Installed between two segments	LXMMCACMD02S100	-
Connection module connector kit	Spare part	LXMMCACMCS1S100	-

Communication interconnects supporting the transmission of communication (Sercos), and SFO safety function (Safe Force Off)

Communication interconnects	Plugable connectors to interconnect long stator Segments	Sold by 1 piece	LXMMBCA001S100	0.050 0.11
		Sold by 10 pieces	LXMMBCA00XS100	0.100
		With additional Sercos connector	LXMMBCAS01S100	0.22
		With additional SFO connector	LXMMBCAF01S100	
Communication connectors	to use at end of open track	With Sercos and SFO connectors	LXMMCBDAF1S100	
		With Sercos connector	LXMMCBDA01S100	

Power interconnects supporting the transmission of the DC power

Power interconnects	Plugable connectors to interconnect long stator Segments	1 piece	LXMMCBPA001S100	0.400 0.88
		10 pieces	LXMMCBPA00XS100	3.500 7.71
		With power connector	LXMMCBPAP01S100	0.600 1.32
Power connector	to use at right end of an open track	LXMMCBQAP01S100		
Power blind plug	to use at left end of open track	LXMMCBQA001S100	0.400	
Power disconnecter	to use between segments	LXMMCBPAB01S100	0.88	

Carrier

Carrier	Carrier for Lexium MC12 multi carrier	1 piece	LXMMC12CA51S100	0.800 1.76
		10 pieces	LXMMC12CA5XS100	8.000 17.6

Carrier handling tool

Carrier handling tool	Handling tool to put carrier on track or to remove carrier from track	LXMMCACT0A1S100	-
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Carrier roller replacement set

Carrier roller replacement set	1 set of 4 rollers and required screws	LXMMCARS0A1S100	-
	10 sets of 4 rollers and required screws	LXMMCARS0AXS100	-

Encoder magnet for carrier

Encoder magnet for carrier	50 pieces	LXMMCAMGEALS100	-
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Motion magnet set for carrier

Motion magnet set for carrier	50 pieces	LXMMCAMGMALS100	-
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Guide rail holding the segments

Guide rail sets	Set of top and bottom guide rails for straight segment	1 unit of length, straight	LXMMCRS0A06S100	1.300 2.86
		2 units of length, straight	LXMMCRS0A12S100	2.500 5.51
		3 units of length, straight	LXMMCRS0A18S100	3.800 8.37
		4 units of length, straight	LXMMCRS0A24S100	5.000 11.00
		5 units of length, straight	LXMMCRS0A30S100	6.200 13.66
	Open track with curves	0.5 units of length	LXMMCRSEA03S100	0.700 1.54
		45° arc, 1 unit of length straight	LXMMCRABA62S100	2.200 4.85
		90° arc, 1 unit of length straight	LXMMCRABA64S100	3.000 6.61
		135° arc, 1 unit of length straight	LXMMCRABA66S100	3.800 8.37
		180° arc, 1 unit of length straight	LXMMCRABA68S100	4.600 10.14
	360° arc	LXMMCRA0A00S100	6.600 14.55	

Lexium MC12 multi carrier

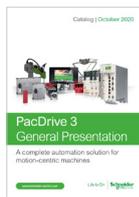
The multi carrier transport system

System components

System components					
System components	Description			Reference (Click on reference to get technical characteristics)	Net weight kg lb
Accessories					
Material test kit 1	Material probes for resistance tests			LXMMCAMK001S100	-
Cables					
Power cables	To use between Connection module LXMMCACMD02S100 (open leads) and Power connector LXMMCBQAP01S100 (Connector elbowed female M23 male)	2 m	6.56 ft	LXMMCAPC020S100	0.500 1.10
		4 m	13.12 ft	LXMMCAPC040S100	0.900 2.00
		6 m	6.56 ft	LXMMCAPC060S100	1.300 2.86
		8 m	26.24 ft	LXMMCAPC080S100	1.700 3.74
		10 m	32.81 ft	LXMMCAPC100S100	2.100 4.62
		12 m	39.37 ft	LXMMCAPC120S100	2.500 5.51
		14 m	45.93 ft	LXMMCAPC140S100	2.900 6.39
		16 m	52.49 ft	LXMMCAPC160S100	3.300 7.27
		18 m	59.05 ft	LXMMCAPC180S100	3.700 8.15
		20 m	65.61 ft	LXMMCAPC200S100	4.100 9.04
		Communication cables	for Communication interconnect SFO (connector elbowed female M12 and open leads)	2 m	6.56 ft
5 m	16.40 ft			XZCP1241L5	0.190 0.42
10 m	32.80 ft			XZCP1241L10	0.370 0.82
15 m	49.21 FT			XZCP1241L15	0.500 1.10
20 m	65.61 ft			XZCP1241L20	0,750 1.653



Catalog ref.
[DIA3ED2180701EN](#)



Catalog ref.
[DIA3ED2160301EN](#)



Catalog ref.
[DIA7ED2160303EN](#)



Catalog ref.
[DIA7ED2160305EN](#)



Catalog ref.
[DIA7ED2160306EN](#)



Catalog ref.
[DIA3ED2161202EN](#)

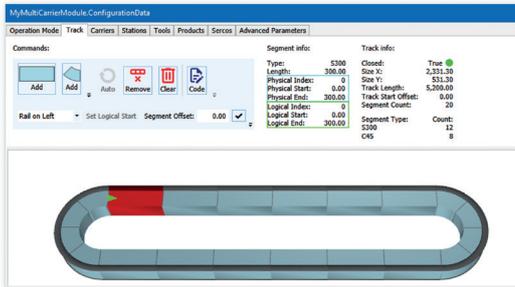


Catalog ref.
[DIA3ED2160307EN](#)

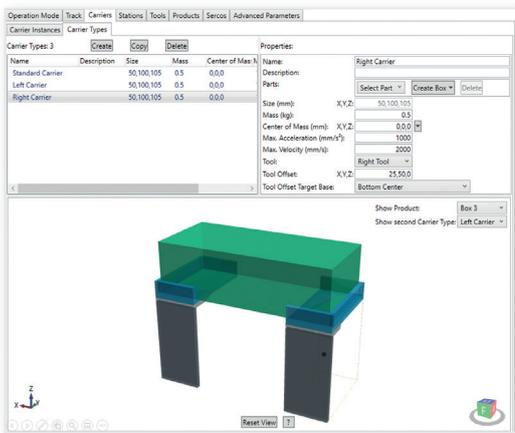


Catalog ref.
[DIA3ED2131204EN](#)

Related offers	
Title	Consult catalog (Click on reference to open the catalog)
EcoStruxure Machine Expert configuration software	DIA3ED2180701EN
PacDrive3 a complete automation solution for motor centric machines	DIA3ED2160301EN
PacDrive LMC Pro2 Motion controller for automating machines/lines with 0 - 130 servo or robot axes	DIA7ED2160303EN
Lexium 62 Multi axis servo drive and power and servo motors	DIA7ED2160305EN
Lexium 62 ILM Multiaxis integrated servo drives	DIA7ED2160306EN
Lexium 62 ILD detached servo drives: single drive, triple drive	DIA3ED2161202EN
Lexium T, P Delta 2 and Delta 3 robots for pick & place solutions	DIA3ED2160307EN
Modicon TM5 High-Performance and Safe IP20 Modular I/O system	DIA3ED2131204EN



Track configuration



Carrier configuration



Catalog ref. [DIA3ED2180701EN](#)

Configuration

Toolset covering the machine life cycle

- Design & Engineering
 - Physical configuration of the track or generated from scan
 - Definition of coordinate system and direction
 - Handling physical dimensions of carriers and products
 - Visualization and virtual commissioning of multi carrier system
- Implement
 - Library
 - Mechanical bricks mounted by the OEM
 - Configurator
- Operating, Maintenance & services
 - Monitoring with Ecostruxure Machine Advisor
 - Visualization

Software

- As Lexium MC12 multi carrier becomes part of PacDrive architecture, its configuration is managed with Ecostruxure Machine Expert software (1) :
 - Deep integration into engineering environment
 - Different usability levels
 - Motion synchronization capabilities
 - Simulation
 - Visualization
 - Virtual commissioning
- With the companion of EcoStruxure Machine Expert Twin (3D simulator), full machines can be emulated including multi carrier and robots (2).

Libraries

- For the efficient
 - Predefined functions for common needs, like carrier queuing, two carrier clamping, multi carrier positioning and release, automatic gap control between moving carriers, ...
- For the experienced
 - Functions working on track level, like scanning a track, management of carriers on the track, monitoring and emergency reactions on track level
- For the experts
 - Carriers are represented like servo axis in the system
 - Existing functionality, e.g. camming can be applied to move carriers
 - Full freedom with full responsibility to manage all movements

(1) Consult catalog ref. [DIA3ED2180701EN](#)

(2) Available by Q4 2021.

Lexium MC12 multi carrier

The multi carrier transport system

Segment, Carrier

Type code													
To order a Segment, make up the reference as follows:													
	Family			Group		Model	Segment type	Segment geo	Length	Variant	Revision	Reserved	
Example	L	X	M	M	C	12	M	S	06	S	1	00	
Product family	L	X	M										
Product group	MC: Multicarrier			M	C								
Model	12 = 120N Peakforce					12							
Segment	M = Standard segment						M						
Segment geometry	S= Straight							S					
	A= Arc outside							A					
Length	for straight segments length given in n50 mm (<i>n1.96 in</i>), e.g 06 = 300 mm (<i>11.81 in</i>)								06				
	for curved segments angle is given in n22,5°, e.g 02 = 45°								02				
Variant	Standard (Anodized Aluminum, IP65)									S			
Revision	1 = Initial version										•		
Reserved	Reserved: always 00											00	

To order a Carrier, make up the reference as follows:														
	Family			Group		Model	Product group	Type	Length	Quantity	Variant	Revision	Reserved	
Example	L	X	M	M	C	12	C	A	5	1	S	1	00	
Product family	L	X	M											
Product group	MC: Multicarrier			M	C									
Model	120 N Peakforce					12								
Carrier	Always C for carrier						C							
Type (equals to model of rail)	Reserved: always A							A						
Size	50 mm (<i>1.96 in</i>)								5					
Quantity	1 piece									1				
	10 pieces									X				
Variant	Standard (Anodized Aluminum, IP65)										S			
Revision	1 = Initial Version										•			
Reserved	Reserved: always 00											00		

Lexium MC12 multi carrier

The multi carrier transport system

Rail, Bridge (Communication interconnect)

Type code													
To order a Rail (1), make up the reference as follows:													
	Family			Group		Rail	Geo. 1	Geo. 2	Model	Size	Variant	Revision	Reserved
Example	L	X	M	M	C	R	A	0	A	02	S	1	00
Product family	L	X	M										
Product group				M	C								
Product detail						R							
Geometry 1							S						
							A						
Geometry 2								0					
								E					
								B					
Model									A				
Size										••			
Variant											S		
Revision												•	
Reserved													00

(1) Rails are always sold as a set of two rails (bottom and top rail).

(2) Max. rail length is 1,5 m (4.92 ft).

To order a Communication interconnect, make up the reference as follows:														
	Family			Group		Bridge	Bridge type	Model	Supplies	Quantity	Variant	Revision	Reserved	
Example	L	X	M	M	C	B	C	A	0	0	1	S	1	00
Product family	L	X	M											
Product group				M	C									
Product detail						B								
Bridge type							C							
							D							
							P							
							Q							
Model								A						
Supplies up to 2 different inputs/outputs can be specified									0	0				
									D	D				
									P	P				
									S	S				
									F	F				
Quantity											•			
Variant												S		
Revision												•		
Reserved													00	

Type code													
To order an Accessory, make up the reference as follows:													
			Family			Group		Accessory	Type	Specifics	Variant	Revision	Reserved
Example			L	X	M	M	C	A	RS	0AX	S	1	00
Product family			L	X	M								
Product group			MC: Multicarrier			M	C						
Accessory			A: Accessory					A					
Accessory type	Type	Specifics	Variant										
	LU= Lubricant	xxx quantity / ml	S					LU	●●●	S			
	RS= Roller set	0xy: 0 Roller Type, x: type of rail see rails-model for coding, y qty: 1= 1, X= 10, L= 50						RS	0●●				
	MG= Magnet	xAy: x: Type of Magnet: E= Encoder, M= Motion, Variant = A, y qty: 1= 1, X= 10, L= 50						MG	●A●				
	CT= Carrier drop tool	0A1: 0 is not used, A variant of drop tool, 1 quantity						CT	0A●				
	SC= Screw sets	xAy: x: Type of screw: S= Segment, y qty, 1= 1, X= 10, L= 50						SC	●A●				
	CM= Connection module 20A	D02	S					CM	D02	S			
	CM= Connection module connector kit	CS1	S					CM	CS1	S			
	MK= Material kit	001						MK	001				
Revision	1 = Initial version											●	
Reserved	Reserved: always 00												00

LXM		LXMMCAPC140S100	9
LXMMC12MS06S100	8	LXMMCAPC160S100	9
LXMMC12MA02S100	8	LXMMCAPC180S100	9
LXMMCACMD02S100	8	LXMMCAPC200S100	9
LXMMCACMCS1S100	8	XZC	
LXMMBCA001S100	8	XZCP1241L2	9
LXMMBCA00XS100	8	XZCP1241L5	9
LXMMBCAS01S100	8	XZCP1241L10	9
LXMMBCAF01S100	8	XZCP1241L15	9
LXMMCBDASF1S100	8	XZCP1241L20	9
LXMMCBDAS01S100	8		
LXMMCBPA001S100	8		
LXMMCBPA00XS100	8		
LXMMCBPAP01S100	8		
LXMMCBQAP01S100	8		
LXMMCBQA001S100	8		
LXMMCBPAB01S100	8		
LXMMC12CA51S100	8		
LXMMC12CA5XS100	8		
LXMMCACT0A1S100	8		
LXMMCARS0A1S100	8		
LXMMCARS0AXS100	8		
LXMMCAMGEALS100	8		
LXMMCAMGMALS100	8		
LXMMCRS0A06S100	8		
LXMMCRS0A12S100	8		
LXMMCRS0A18S100	8		
LXMMCRS0A24S100	8		
LXMMCRS0A30S100	8		
LXMMCRSEA03S100	8		
LXMMCRABA62S100	8		
LXMMCRABA64S100	8		
LXMMCRABA66S100	8		
LXMMCRABA68S100	8		
LXMMCRA0A00S100	8		
LXMMCAMK001S100	9		
LXMMCAPC020S100	9		
LXMMCAPC040S100	9		
LXMMCAPC060S100	9		
LXMMCAPC080S100	9		
LXMMCAPC100S100	9		
LXMMCAPC120S100	9		

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