

Электроприводы

Технические характеристики

Архангельск (8182)63-90-72
Астана (7172)727-132
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90

Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40

Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

Киргизия (996)312-96-26-47 Казахстан (772)734-952-31 Таджикистан (992)427-82-92-69





MX

ELECTRIC

Delivering unmatched positioning accuracy for control and modulating functions, Flowserve electric actuators are the world's first choice for some of the most challenging applications. Compact, lightweight designs keep footprints small. Cost-effective capital investment is matched by reduced costs for operation, control functions, maintenance, environmental compliance and safety. Superior process monitoring, data logging and information feedback options maximize efficiency and minimize downtime.

Electric – Quick Reference*

Product	Sub-Type	Torque	Thrust	Output Speed	Temperatures
L120	Intrusive Multi-Turn	136 to 81 600 Nm (100 to 60 000 ft-lb)	4500 to 225 000 kN (10 000 to 500 000 lbf)	750 to 3000 rpm	-50°C to 65°C (-56°F to 150°F)
SMB	Intrusive Multi-Turn	20 to 81 349 Nm (15 to 60 000 ft-lb)	36 to 2224 kN (8000 to 500 000 lbf)	1800 to 3600 rpm	-20°F to 150°F (-29°C to 66°C)
SB and SBD	Intrusive Multi-Turn	353 to 11 253 Nm (260 to 8300 ft-lb)	62 to 1112 kN (14 000 to 250 000 lbf)	1800 to 3600 rpm	-20°F to 150°F (-29°C to 66°C)
QX	Non-Intrusive, Quarter-Turn	54 to 2033 Nm (40 to 1500 ft-lb)	—	5 to 120 s	-55°C to 70°C (-67°F to 156°F)
QXM	Non-Intrusive, Multi-Turn	24 to 337 Nm (18 to 250 ft-lb)	3 to 40 kN (593 to 9065 lbf)	3 to 24 rpm	-30°C to 70°C (-22°F to 156°F)
MX	Non-Intrusive, Multi-Turn	27 to 2307 Nm (20 to 1700 ft-lb)	35 to 333 kN (8000 to 75 000 lbf)	15 to 200 rpm	-60°C to 70°C (-76°F to 158°F)

* Additional products shown on next page

Electric — Quick Reference, cont'd.

Product	Sub-Type	Topology	Comm. Meth.	Max. Tran.	Max. Devc.	Max. Dist.
Modbus DDC	Network Controls	Multi-drop (single ended/redundant loop for MX)	Master-Slave	19.2 Kbps	250	1200 m (without repeaters)
Modbus Ethernet TCP/IP	Network Controls	Redundant bi-directional loop or daisy chain	Modbus protocol over RS-485 or Ethernet	38.4 Kbps	250	1.52 km (without repeaters)
Foundation Fieldbus H1 with DTM	Network Controls	Multi-drop, Point-to-Point, Tree	Publisher/Subscriber	31.25 Kbps	240/network — 32/segment (with repeater)	1900 m/segment
PROFIBUS DP V1 with Redundancy and DTM	Network Controls	Multi-drop, Point to Point, Daisy Chain	Master-Slave	1.5 Mbps	127	1200 m (without repeaters)
PROFIBUS PA	Network Controls	Multi-drop, Point-to-Point, Tree	Master-Slave	31.25 Kbps	127 (31 per repeater)	1200 m (without repeaters)
DeviceNet	Network Controls	Multi-drop, Linear Trunkline/Dropline	Master-Slave	500 Kbps	64	500 m
Hart with DTM	Network Controls	Multi-drop, Point-to-Point	Master-Slave	1.2 Kbps	15	1800 m/network

All network PCBs meet EMC requirements to European Directive 2004/108/EC and vibration/seismic requirements to Machinery Directive 2006/42/EC.

INTRUSIVE MULTI-TURN

L120

From commercial power feedwater and steam systems, to oil and gas refining and coking, to water filtration and treatment, the L120 has a solid record in the most demanding applications.

- Proven safety with explosion-proof certification, torque overload protection, plus resistance to lightning, EMI, fire, vibration and high-pressure steam
- Longer service life from aluminum and ductile iron housings, plus anti-friction bearing-supported alloy steel worm shafts with bronze worm gears
- Broad application flexibility via integration with most network protocols through UEX electronic controls package
- Extreme environment performance available from weatherproof, submersible and explosion-proof construction options

SPECIFICATIONS

Torque: 136 to 81 600 Nm
(100 to 60 000 ft-lb)
Thrust: 4500 to 225 000 kN
(10 000 to 500 000 lbf)
Output Speed: 750 to 3000 rpm
Temp: -50°C to 65°C (-56°F to 150°F)
Refer to literature LMENBR1200 at / library.



Limitorque®

INTRUSIVE MULTI-TURN

SMB

Introduced in the 1960s, SMB actuators are used by the U.S. Navy, every nuclear power facility in the U.S., and virtually every other industrial environment.

- Long service life with rugged with cast iron housing and precision-machined gearing
- Extreme environment performance enabled by nuclear, weatherproof, submersible or explosion-proof construction
- Lower maintenance and downtime owing to torque-limiting feature, which de-energizes the motor to prevent valve damage in the event of an obstruction
- Fully qualified for nuclear applications to IEEE 384, 323 and 344

SPECIFICATIONS

Torque: 20 to 81 349 Nm
(15 to 60 000 ft-lb)
Thrust: 36 to 2224 kN
(8000 to 500 000 lbf)
Output Speed: 1800 to 3600 rpm
Temp: -29°C to 66°C (-20°F to 150°F)
Refer to literature LMENBR1400 at / library.



Limitorque

INTRUSIVE MULTI-TURN

SB and SBD

These spring-compensated extensions of the SMB product line are available for applications where thermal expansion may pose a jammed-valve risk, or where valve discs are subject to extremely high-speed closure.

- High-temperature capability enabled by design that allows for thermal expansion and contraction of the valve stem and actuator stem nut
- High-speed performance made possible by spring-loaded stem nut, which absorbs the seating shock caused by rapid closing
- Longer service life via impact-dampening capability, which enables actuators to function at speeds as high as three times normal rates
- Optimized performance for stem contraction and torque back-seating applications available with double-compensating SBD configuration

SPECIFICATIONS

Torque: 353 to 11 253 Nm
(260 to 8300 ft-lb)
Thrust: 62 to 1112 kN
(14 000 to 250 000 lbf)
Output Speed: 1800 to 3600 rpm
Temp: -29°C to 66°C (-20°F to 150°F)
Refer to literature LMENBR1400 at / library.



Limitorque

ELECTRIC

NON-INTRUSIVE, QUARTER-TURN

QX

The QX design builds on more than 20 years of proven MX technology to provide all the user-preferred features in a quarter-turn smart actuator package.

- Greater process control with non-contacting absolute encoders that provide accurate position sensing
- B.I.S.T., built-in self-test which never needs batteries to retain position data, even in the event of main power loss
- Extreme environment performance made possible by non-intrusive design, 100% solid-state controls, and reliable digital communication control system
- Flexible control configurations, setup and diagnostics in 11 languages, and advanced brushless DC motor that supports most global voltages, AC or DC

SPECIFICATIONS

Torque: 54 to 2033 Nm
(40 to 1500 ft-lb)
Output Speed: 5 to 120 s
Temp: -55°C to 70°C (-67°F to 156°F)
Refer to literature LMENBR3302 at / library.



Limitorque

NON-INTRUSIVE, MULTI-TURN

QXM

A smart, non-intrusive electronic valve actuator with a maximum of 20 drive sleeve turns. Designed for limited, short stroke, light torque rising stem valve applications such as choke or control valves.

- Lower operating costs compared to pneumatic actuators, with the added advantages of electrical operation
- Greater process control from accuracy that meets and exceeds EN 15714 (Class D) and IEC 60034 standards for modulating service
- Increased reliability via electro-magnetic noise protection of analog process control signals

SPECIFICATIONS

Torque: 24 to 337 Nm; (18 to 250 ft-lb)
Thrust: 3 to 40 kN; (593 to 9065 lbf)
Output Speed: 3 to 24 rpm
Temp: -30°C to 70°C (-22°F to 156°F)
Refer to literature LMENBR3302 at / library.



Limitorque

NON-INTRUSIVE, MULTI-TURN

MX

Introduced in 1997 and into its third generation, the MX is built upon a wealth of experience and performance in valve actuation. Thousands are installed in all major market segments.

- Broad versatility owing to a wide variety of configurations, including torque-only, thrust-based, linear thrust base and rising stem applications
- Increased uptime from patented absolute positioning encoder that never needs batteries and B.I.S.T. built-in self-test
- Instant actuator status and valve position in 11 languages provided by graphical display with local control switches with solid-state Hall effect devices
- Low-temperature capability to -60°C (-76°F) with arctic temperature and solid-state starter options for modulation to 1200 starts per hour

SPECIFICATIONS

Torque: 27 to 2307 Nm (20 to 1700 ft-lb)
Thrust: 35 to 333 kN;
(8000 to 75 000 lbf)
Output Speed: 15 to 200 rpm
Temp: -60°C to 70°C (-76°F to 158°F)
Refer to literature LMENBR2302 at / library.



Limitorque

Leading the Charge in Electric Innovation

FlowsERVE was one of the first companies to introduce electric actuators back in the 1980s. Since then, we've significantly increased their efficiency while dramatically reducing their cost. In recent years, these advances have reached a tipping point that makes electric actuators the first choice for a wide variety of applications. Today's electric actuators can provide superior positioning accuracy for control or modulating functions, plus invaluable diagnostic and process data.



NETWORK CONTROLS

Modbus DDC

Limatorque ensures complete integration with Modbus DDC. Connect up to 250 actuators with a single twisted-pair cable on an RS-485 network to a PLC/SCADA system or Limatorque Master Station.



- Greater process control in even the largest networks made possible by support for up to 250 actuators
- Increased efficiency, security and safety via Master Station option, enabling complete single-source control and diagnostics for MX, QX, L120 and LY units
- Complies with EMC requirements to European Directive 2004/108/EC and vibration/seismic requirements to Machinery Directive 2006/42/EC

SPECIFICATIONS

Topology: Multi-drop (single ended/
redundant loop for MX)
Comm. Meth: Master-Slave
Max. Trans. Rate: 19.2 Kbps
Max. Devices: 250
Max. Dist: 1200 m (without repeaters)

Refer to literature LMENIM2329
and LMENFL5100 at / library.

NETWORK CONTROLS

Modbus Ethernet TCP/IP

Combining the simplicity of the Modbus protocol with the widespread Ethernet standard, Limatorque products with Modbus Ethernet TCP/IP connect to any Modbus network that supports TCP/IP and RS485 systems.



- Greater process control enabled by support for up to 250 devices
- Increased flexibility and reduced costs via off-the-shelf Ethernet tools, permitting control from a DCS, PLC or PC
- Easy installation with simple module that connects directly to Modbus terminals
- Optimized communication performance supported by baud rate options from 1.2K up to 38.4K
- Complies with ODVA CIP specifications for internet protocols, Industrial Ethernet (IE) regulations IEC 61158 (Fieldbus) and IEEE 802

SPECIFICATIONS

Topology: Redundant bi-directional
loop or daisy chain
Comm. Meth: Modbus protocol over
RS-485 or Ethernet
Max. Trans. Rate: 38.4 Kbps
Max. Devices: 250
Max. Dist: 1.52 km (without repeaters)

Refer to literature LLMENIM2329 at /
library.

ELECTRIC

NETWORK CONTROLS

Foundation Fieldbus H1 with DTM



Limiterque actuators with Foundation Fieldbus can act as a link active scheduler and time master for regulating communication on a fieldbus segment.

- Broad network versatility from support for multiple topologies, including point-to-point, bus with spurs, daisy chain, tree or combinations of these
- Ease of installation and setup with direct connection to PLC or DCS systems from major manufacturers, including Emerson, Honeywell, ABB, GE and Yokogawa
- Increased performance, safety and environmental compliance from Flowserve ValveSight™ support
- Complies with EMC requirements to European Directive 2004/108/EC and vibration/seismic requirements to Machinery Directive 2006/42/EC

SPECIFICATIONS

Topology: Multi-drop, Tree, Point-to-Point
Comm. Meth: Publisher/Subscriber
Max. Trans. Rate: 31.25 Kbps
Max. Devices: 240/network;
32/segment (with repeater)
Max. Dist: 1900 m/segment

Refer to literature LMENIM2330 at /library.

NETWORK CONTROLS

PROFIBUS DP V1 with Redundancy and DTM



Limiterque actuators with PROFIBUS DP are designed to operate sensors and actuators via a centralized controller in production (factory) automation applications.

- Reduced maintenance and related operating costs via intuitive software that proactively identifies maintenance needs, preventing unscheduled shutdowns
- Increased efficiency enabled by network that allows users to communicate in real time with every device and monitor diagnostics information, including alarms
- Complies with EMC requirements to European Directive 2004/108/EC
- Complies with Profibus specification, Slave-Redundancy_2.212_v12 and transfers communication for both flying and system redundancy in ≤ 500 ms per specification
- Supports NAMUR NE-107

SPECIFICATIONS

Topology: Multi-drop, Point-to-Point, Daisy Chain
Comm. Meth: Master-Slave
Max. Trans. Rate: 1.5 Mbps
Max. Devices: 127
Max. Dist: 1200 m (without repeaters)

Refer to literature LMENIM2330 and LMENFL2336 at /library.

NETWORK CONTROLS

PROFIBUS PA



Limiterque actuators with PROFIBUS PA are used to monitor and control process automation applications.

- Broad application flexibility via analog and digital input/output function blocks
- Ease of installation and setup made possible by direct connection to PLC or DCS systems from major manufacturers, including Emerson, Honeywell, ABB and Yokogawa
- Increased performance, safety and environmental compliance from Flowserve ValveSight support
- Complies with EMC requirements to European Directive 2004/108/EC and vibration/seismic requirements to Machinery Directive 2006/42/EC

SPECIFICATIONS

Topology: Multi-drop, Tree, Point-to-Point
Comm. Meth: Master-Slave
Max. Trans. Rate: 31.25 Kbps
Max. Devices: 127 (31 per repeater)
Max. Dist: 1200 m (without repeaters)

Refer to literature LMENIM2336 at /library.

NETWORK CONTROLS

DeviceNet

Limiterorque actuators integrate seamlessly with DeviceNet. DeviceNet is a digital, multi-drop network that connects and serves as a communication network between industrial controllers and field devices.



- Broad application flexibility via support for multiple communication hierarchies and message prioritization
- Greater reliability and reduced downtime assured by cyclic redundancy checking (CRC), auto retries, and bus-powered network interface that allows alarm information to be communicated when actuator loses main power
- Complies with EMC requirements to European Directive 2004/108/EC and vibration/seismic requirements to Machinery Directive 2006/42/EC

SPECIFICATIONS

Topology: Multi-drop, Linear
Trunkline/Dropline
Comm. Meth: Master-Slave Max.
Trans. Rate: 500 Kbps Max.
Devices: 64
Max. Dist: 500 m
Refer to literature LMENIM2328
at /library.

NETWORK CONTROLS

Hart with DTM

Limiterorque actuators with HART (Highway Addressable Remote Transducer) allow secondary masters, such as handheld communicators, to be connected without interfering with the plant control system.



- Greater process control, asset management efficiency and safety made possible by enabling the use of both centralized control/monitoring and smart field devices
- Faster diagnostic feedback and summaries due to burst mode that enables response of up to three commands continuously
- Complies with EMC requirements to European Directive 2004/108/EC and vibration/seismic requirements to Machinery Directive 2006/42/EC

SPECIFICATIONS

Topology: Multi-drop, Point-to-Point
Comm. Meth: Master-Slave
Max. Trans. Rate: 1.2 Kbps
Max. Devices: 15
Max. Dist: 1800 m/Network
Refer to literature LMENFL2340
or LMENIM2340 at / library.

По вопросам продаж и поддержки обращайтесь:

Архангельск (8182)63-90-72
Астана (7172)727-132
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89
Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Краснодар (861)203-40-90

Красноярск (391)204-63-61
Курск (4712)77-13-04
Липецк (4742)52-20-81
Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Пермь (342)205-81-47
Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40

Саратов (845)249-38-78
Севастополь (8692)22-31-93
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Тверь (4822)63-31-35
Томск (3822)98-41-53
Тула (4872)74-02-29
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Ярославль (4852)69-52-93

Киргизия (996)312-96-26-47 Казахстан (772)734-952-31 Таджикистан (992)427-82-92-69

Единый адрес для всех регионов: fvr@nt-rt.ru || www.flowserve.nt-rt.ru