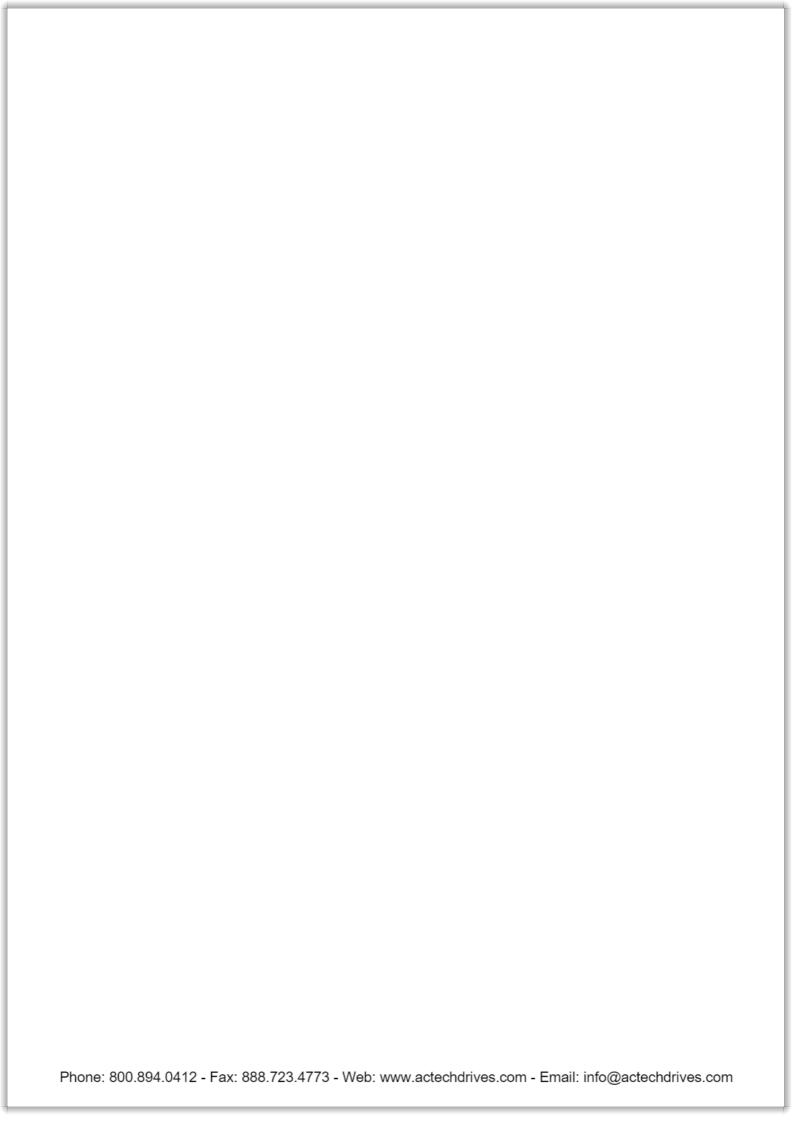
66 to 1,100 Nm





Contents



General information	List of abbreviations		
	Product key	5.3 - 6	
	Product information	5.3 - 8	
	Functions and features	5.3 - 9	
	Dimensioning	5.3 - 10	
Technical data	Standards and operating conditions	5.3 - 17	
	Permissible radial and axial forces	5.3 - 18	
	Rated data, forced ventilated	5.3 - 20	
	Selection tables, Servo Drives 9400 HighLine	5.3 - 21	
	Selection tables, Inverter Drives 8400 TopLine	5.3 - 23	
	Selection tables, Servo Inverter 9300	5.3 - 25	
	Torque characteristics	5.3 - 27	
	Dimensions, forced ventilated	5.3 - 32	
Accessories	Spring-applied holding brake	5.3 - 37	
	Resolver	5.3 - 39	
	Incremental encoder and SinCos absolute value encoder	5.3 - 40	
	Blowers	5.3 - 42	
	Temperature monitoring	5.3 - 43	
	ICN connector	5.3 - 44	

Phone: 800.894.0412 - Fax: 888.723.4773 - Web: www.actechdrives.com - Email: info@actechdrives.com - Email: info@actechdri

General information



List of abbreviations

CE	Communauté Européenne
CSA	Canadian Standards Association
DIN	Deutsches Institut für Normung e.V.
EMC	Electromagnetic compatibility
EN	European standard
GOST	Certificate for Russian Federation
IEC	International Electrotechnical Commission
IM	International Mounting Code
IP	International Protection Code
NEMA	National Electrical Manufacturers Association
UkrSEPRO	Certificate for Ukraine
UL	Underwriters Laboratory Listed Product
UR	Underwriters Laboratory Recognized Product
VDE	Verband deutscher Elektrotechniker (Association of German Electrical Engineers)

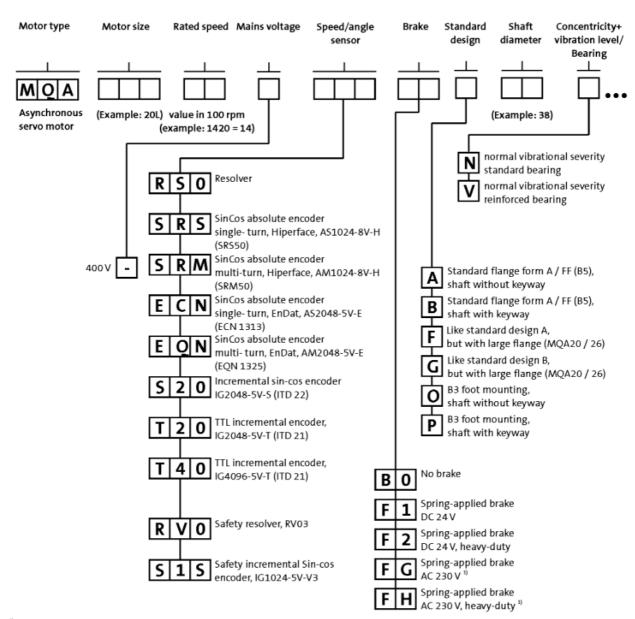
5.3

Lenze | V04-en_GB-06/2014 5.3 - 5

General information



Product key



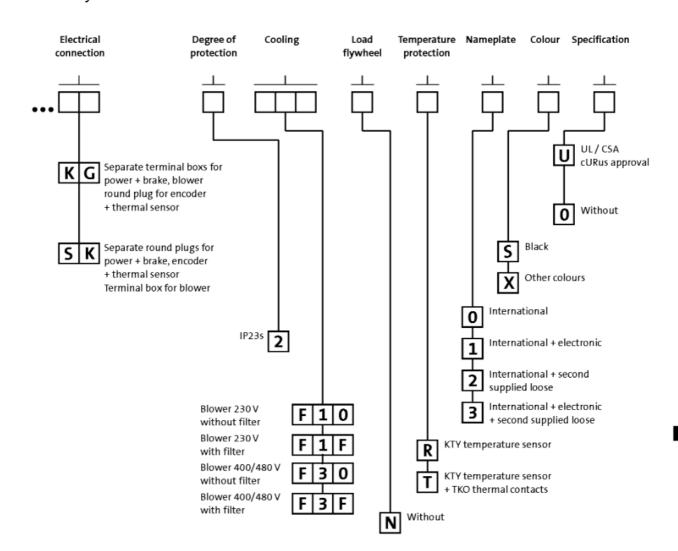
¹⁾ Not possible for UL design.

ر.ر

General information



Product key



General information



Product information

Designed for the harsh conditions of continuous operation in tight spaces at high torques, the enclosed-ventilated motors in the MDFQA series offer a long service life and optimum operational performance in all drive situations.

The motors, which have a power range of between 10 kW and 95 kW, are compact units with IP23 enclosure. They have been designed specifically for operation with Lenze's frequency and servo inverters. A wide range of feedback systems, brakes and blowers ensures that the perfect system configuration is available for virtually all operating conditions.

Advantages

- · High power density
- · Excellent operating characteristics
- IP23 protection
- Easy to install and service friendly
 - MQA 20 with SpeedTec connectors
 - MQA 22 and 26 with three-part terminal box
- Temperature class F
- · KTY temperature monitoring
- · Radial external fan
- · B3 or B35 design
- · Wide speed control range
- Field weakening operation usable



MQA22 asynchronous servo motor

5.3

5.3 - 8 Lenze | V04-en_GB-06/2014

General information



Functions and features

	MQA20	MQA22	MQA26
Design			
	B3 B35-FF215 B35-FF265	B3 B35-FF265	B3 B35-FF265 B35-FF350
Shaft end (with and without keyway)			
	38	x 80	55 x 110
A end shield			
	Oil-tight Not oil-tight		
Brake			
Spring-applied brake	DC 24 V AC 230 V ^{1, 2)}		
Speed and angle encoder			
	Resolver SinCos single-turn/multi-turn Incremental encoder		
Cooling			
Radial blower, 1 phase	230 V; 50 Hz 230 V; 60 Hz		
Radial blower, 3 phase	400 V; 50 Hz 400 V; 60 Hz 460 V; 50 Hz 460 V; 60 Hz 480 V; 60 Hz		
Thermal sensor		,	
Thermal detector	KTY		
Thermal contact	TKO 3)		
Motor connection: Terminal box + plug connector			
Terminal box	Power + brake Blower		
Plug connector	Power + brake Encoder + thermal sensor Encoder + thermal sensor		
Shaft bearings			
Bearing type	Deep-groove ball bearing with high-temperature resistant grease, sealing disc or cover plate		
Position of the locating bearing	Non-drive end		
Installation of the locating bearing	insulation		
Colour			
	Primed (grey) RAL9005M		

Not possible for UR version.
Not possible for MQA motor type with circular connector for motor connection.
Not possible for MQA motor type with circular connector for motor connection and brake.

General information



Dimensioning

Speed-dependent safety functions

Single encoder concepts with resolvers

Servo motors can perform speed-dependent safety functions for safe speed and / or safe relative position monitoring in a drive system with the Servo Drives 9400. The SM301 safety module, which can be integrated in the Servo Drives 9400, is used to implement these functions. When planning systems/installations of this kind, the following must always be observed:

When using just one single feedback system in the environment of these safety applications, the applicable safety engineering standard IEC 61800-5-2 [Adjustable speed electrical power drive systems - Part: 5-2: Safety requirements - Functional] stipulates special requirements for the connection between feedback system and motor shaft. This is due to the fact that two-channel safety systems at this point in the mechanical system are actually designed as single-channel systems. If this mechanical connection is designed with considerable overdimensioning, the standard permits exclusion of the fault "encodershaft breakage" or "encoder-shaft slip".

As such, acceleration limit values must not be exceeded for the individual drive solutions. You can find the limit values in the corresponding feedback data of the individual motor ranges.

Speed-dependent safety functions in connection with the SM301 safety module

For the following speed-dependent safety functions, the motorfeedback system combinations listed in the following table are available:

- · Safe stop 1 (SS1)
- · Safe operational stop (SOS)
- · Safely Limited Speed (SLS)
- · Safe Maximum Speed (SMS)

- · Safe direction (SDI)
- · Operation mode selector (OMS) with confirmation (ES)
- · Safe speed monitor (SSM)
- · Safely limited increment (SLI).

Encoder type	Encoder type	Product key	Feedback	Safe speed monitoring
			Design	
SinCos incremental	Single-turn	IG1024-5V-V3		PL e/SIL 3
Resolver		RV03		PLE/SILS
			2-encoder concept	up to PL e / SIL 3

General information



Dimensioning

Cooling effect of mounting flange

Mounting on a thermally conducting / insulating plate or machine chassis only has a minor impact in terms of heating up the motor when using servo motors from the MQA range. As such, this effect is negligible and can be disregarded.

Vibrational severity

		MQA20	MQA22	MQA26
Vibrational severity				
IEC/EN 60034-14			A	
Maximum r.m.s. value of the vibration velocity 1)	[mm/s]		1.60	

¹⁾ Free suspension

► at n = 600 to 3,600 rpm

5.3

Lenze | V04-en_GB-06/2014 5.3 - 11