


Blatt / proc Gepr. / check	Position Type code	1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 <b>MAA - nnBnnCDDDEE - FnnG - HHJKKKL - MnPQRRSTTTT</b>		<b>Type code</b> for servo motors MCA, MCS and MOA	Modification 217990
Blatt / proc 2005-08-30 2005-11-04 Arning Lange	<b>Motor series</b> Compact servo motor asynchronous, closed.....MCA synchronous, closed.....MCS asynchron.intern.ventilated MQA	Parting point 1) -			
Normblatt-Nr. / standard no. <b>10.05403GB</b>	<b>Motor size</b> Square dimension in cm 62 mm.....06 89 mm.....09 102 mm.....10 116 mm.....12 130 mm.....13 142 mm.....14 165 mm.....17 192 mm.....19 200 mm.....20 214 mm.....21 224 mm.....22 264 mm.....26				
	<b>Overall length MCA,MCS:</b> Length of coil module as letter 10 mm.....A 20 mm.....B 30 mm.....C 40 mm.....D 50 mm.....E 60 mm.....F 70 mm.....G 80 mm.....H 90 mm.....I 100 mm.....J 110 mm.....K 120 mm.....L 130 mm.....M 140 mm.....N 150 mm.....O 160 mm.....P 170 mm.....Q 180 mm.....R 190 mm.....S				
Blatt / sheet von / of 1 7	1) in the catalog and in the SAP material text the parting point is a blank; for lack of space, no blank in the SAP-standard description Cont. page 2				

(table continued)

Position	1	2	3	4
Type code	<b>MAA-nnBnnCDDDEE-FnnG-HHJKKKL-MnPQRRSTTT</b>			
<b>Overall length</b>	200 mm.....T			
<b>MCA-10 to MCA-21;MCS</b>	210 mm.....U			
	220 mm.....V			
	230 mm.....W			
	240 mm.....X			
	250 mm.....Y			
<b>MQA:Length of coil module as letter</b>				
<b>Overall length</b>	240 mm.....L			
<b>MCA-22 to MCA-26</b>	310 mm.....P			
	400 mm.....T			
<b>Rated speed rounded in 100/min</b>				
Example: 2000/min.....	20			
<b>applied line voltage</b>				
400 V.....	-			
230 V.....	L			
<b>Speed encoder-/angle sensor</b>				
Resolver p=1 (2-poles, stator-fed).....	RS0			
Resolver p=1 (2-poles, rotor-fed).....	RS1			
Resolver p=2 (4-poles, rotor-fed).....	RS2			
Resolver p=3 (6-poles, rotor-fed).....	RS3			
Resolver p=4 (8-poles, rotor-fed).....	RS4			
Singleturn absolute value encoder Stegmann SRS with Sin-Cos-signals, Hiperface.....	SRS			
Multiturn absolute value encoder Stegmann SRM with Sin-Cos-signals, Hiperface.....	SRM			
Singleturn absolute value encoder Heidenhain ECN mit Sin-Cos-Signalen, Endat.....	ECN			
Multiturn absolute value encoder Heidenhain EQN with Sin-Cos-signals, Endat.....	EQN			
Multiturn absolute value encoder Heidenhain EQI with Sin-Cos-signals, Endat.....	EQI			
Incremental encoder with commutation signals				
Renco R35i, TTL with UVW, 2048 pulses.....	C20			
Renco R35i, TTL with UVW, 4096 pulses.....	C40			
Stegmann CDD, TTL with UVW, 2048 pulses.....	D20			
Stegmann CDD, TTL with UVW, 4096 pulses.....	D40			
Sin-Cos encoder IS2048.....	S20			
Sin-Cos absolute value encoder AS512 Segmann SCS....	SCS			
Sin-Cos absolute value encoder AM512 Segmann SCM....	SCM			

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(table continued)

Position	1										2										3										4									
Type code	MAA-nnBnnCDDDEE										-FnnG-HHJKKKL										-MnPQRRSTTT																			
Incremental encoder 1024 TTL safety module.....	T1S																																							
Incremental encoder 2048 TTL.....	T20																																							
Incremental encoder 4096 TTL.....	T40																																							
Incremental encoder 8192 TTL.....	T81																																							
Incremental encoder 512 TTL.....	T05																																							
Incremental encoder 4096 HTL.....	H40																																							
Incremental encoder 2048 HTL.....	H20																																							
Incremental encoder 512 HTL.....	H05																																							
No encoder.....	NN0																																							
<b>Brake</b>																																								
without brake.....	B0																																							
without brake, to fit brake.....	BV																																							
Spring-applied brake 24 V-DC.....	F1																																							
Spring-applied brake 24 V-DC higher torque.....	F2																																							
Spring-applied brake 205 V-DC.....	F5																																							
Spring-applied brake 205 V-DC higher torque.....	F6																																							
PM brake 24 V-DC.....	P1																																							
PM brake 24 V-DC higher torque.....	P2																																							
PM brake 24 V-DC extra.....	P3																																							
PM brake 205 V-DC.....	P5																																							
PM brake 205 V-DC higher torque.....	P6																																							
Spring-applied brake 230 V-AC.....	FG																																							
Spring-applied brake 230 V-AC higher torque.....	FH																																							
<b>Design and shaft</b>																																								
Standard design																																								
B5 OP with through holes, parallel shaft without key																																								
standard flange form Form A/FF.....	A																																							
standard flange form A large.....	F																																							
B5 MP with through holes, parallel shaft with key																																								
standard flange form Form A/FF.....	B																																							
standard flange form Form A large.....	G																																							
B14 OP with tapped holes, parallel shaft without key																																								
standard flange form Form C/FT.....	C																																							
standard flange form Form C large.....	U																																							
B14 MP with tapped holes, parallel shaft with key (standard mounting)																																								
standard flange form Form C/FT.....	N																																							
standard flange form Form C large.....	V																																							

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(table continued)

Position	1	2	3	4												
Type code	MAA - nnBnnCDDDEE - FnnG - HHJKKKL - MnPQRRSTTT															
B5	standard flange form A/FF with through holes, shaft with involute gearing (module ... please specify).....E															
B3	Design B3 without fitting key.....0															
	Design B3 with fitting key.....P															
B35	Design B35 without fitting key.....K															
	Design B35 with fitting key .....L															
<b>Direct gearbox attachment: Motor without pinion to fit an open gearbox with pinion</b>																
	Flange for direct gearbox attachment without intermediate cover with shaft with taper bore.....Z															
	Flange square for direct gearbox attachment with intermediate cover.....Y															
<b>Shaft</b>																
	Shaft 11 x 23 (MCS06).....11															
	Shaft 14 x 30 (MCA10, MCS09).....14															
	Shaft 19 x 40 (MCA13, MCS12).....19															
	Shaft 24 x 50 (MCA14, 17, MCS14).....24															
	Shaft 28 x 60 (MCA19, MCS19).....28															
	Shaft 38 x 80 (MCA21, MQA20, 22).....38															
	Shaft 55 x 110 (MQA26).....55															
	Shaft with taper bore C (MCA10, MCS06).....0C															
	Shaft with taper bore D (MCA13, MCS09).....0D															
	Shaft with taper bore E (MCA14, MCS12).....0E															
	Shaft with taper bore F (MCA17, MCS14).....0F															
	Shaft with taper bore G (MCA19).....0G															
	Shaft with taper bore H (MCA20, MCA21, MQA20).....0H															
	Shaft with taper bore K (MCA22, MCA26, MQA22, MQA26).....0K															
<b>Concentricity-vibration level / reinforced bearings</b>																
	normal.....N															
	reduced.....R															
	normal + reinforced bearings.....V															
	reduced + reinforced bearings.....T															
	shaft with taper bore.....0															
<b>electrical connection</b>																
	separate circular connector for power + brake, encoder + temperature, fan.....ST															

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(table continued)

Position	1									2									3									4								
Type code	MAA - nnBnnCDDDEE - FnnG - HHJKKKL - MnPQRRSTTT																																			
circular connector for power + brake, circular connector for encoder + temperature, Terminal box for fan.....	SK																																			
common rectangular connector for power + brake, encoder + temperature, fan.....	SQ																																			
Terminal box for power + brake, circular connector for encoder + temperature, Terminal box for fan.....	KG																																			
Terminal box for power + brake, encoder + temperature, fan.....	KK																																			
Terminal box for power + brake, separate circular connector for encoder + temperature, fan .....	KS																																			
free cable ends or simple connector for power + brake, encoder + temperature, fan (only frame sizes 031, 045) "L" + length as letter A=1 m, B=2 m etc.....	LC																																			
<b>Enclosure</b>																																				
IP23S enclosed-ventilated, without shaft seal ring.....	2																																			
IP54 without shaft seal ring (except direct gearbox attachment).....	5																																			
IP65 with shaft seal ring.....	6																																			
IP64 (A-flange, without shaft seal ring) / IP65.....	A																																			
IP54 with shaft seal ring (D-bearing, oil-tight).....	B																																			
IP54 with shaft seal ring – double lip (D-bearing, dust-tight).....	C																																			
IP65 with shaft seal ring – double lip.....	D																																			
<b>Cooling / ventilation</b>																																				
Natural ventilation / without fan.....	S00																																			
Internal cooling.....	I00																																			
Separate fan 230 V-AC, small connector M17.....	F10																																			
Separate fan 230 V-AC, small connector M17, with filter.....	F1F																																			
Separate fan 230 V-AC, large connector M23.....	F12																																			
Separate fan 230 V-AC, terminal box.....	F19																																			
Separate fan 115 V-AC, small connector M17.....	F50																																			
Separate fan 115 V-AC, small connector M17, with filter.....	F5F																																			
Separate fan 115 V-AC, large connector M23.....	F52																																			
Separate fan 115 V-AC, terminal box.....	F59																																			
Integral fan.....	E00																																			
Cast-iron integral fan with increased inertia.....	EG0																																			
Single-phase fan 400 V.....	F20																																			
Three-phase fan 400 V.....	F30																																			
Three-phase fan 400 V with filter.....	F3F																																			
Wide-range fan.....	FW0																																			
Wide-range fan with filter.....	FWF																																			

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(table continued)

Position 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0

Type code MAA - nnBnnCDDDEE - FnnG - HHJKKKL - MnPQRRSTTT

**Load flywheel**

without.....N  
 with additional mass inertia.....J

**Temperature protection, electronic nameplate, nameplate, colour, specification**

**Temperature protection**

KTY- sensor.....R  
 PTC.....P  
 TKO NC contact.....B  
 NTC.....N  
 KTY + TKO.....T

**Nameplate**

Standard nameplate international.....0  
 Standard nameplate + ETS.....1  
 second nameplate separate.....2  
 second nameplate separate + ETS.....3

**Colour**

yellow orange RAL 2000.....G  
 without colour.....N  
 reseda green RAL 6011.....R  
 black RAL 9005.....S

**Specification**

UL/CSA-design, approval cURus.....U  
 UL-design, approval UR.....R  
 not UL-design.....0

**preferred markets**

Europe.....EP  
 America.....AK  
 Asia / Oceania.....AA  
 Australia.....AU  
 Africa.....AC  
 World-wide.....WW  
 (Country codes to ISO standard are assigned by the LTN)

**Manufacturer**

Lenze.....A  
 (Manufacturer codes are assigned by the LTN)

**Other, specials**

customer-specific text, customer-specific nameplate.....xxxx

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*Examples:*

Asynchronous-compact-servo-motor 5.4 Nm, 4100 /min, for 400 V, resolver, PM-standard brake, B5, standard shaft; without fitting key, connector, IP54, no fan, no , no load flywheel, KTY, without electronic nameplage, without special features, with UL/CSA approval

**MCA 14L41-RS0P1-A24N-ST5S00N-R0SUWWA**

Asynchronous-compact servo motor 170 Nm, 4160 /min, for 400 V, Multiturn encoderr SRM, without brake, B5, standard shaft wiith fitting key, connector, IP65, no fan, no load flywheel, KTY, with electronic nameplate, with UL/CSA approval

**MCA 21X42-SRMB0-B24N-ST6S00N-E2SUWWA**

Synchronous-compact servo motorr 14 Nm, 3000 /min, for 230 V, resolver, PM-standard brake, B5, standard shaft without fitting key, connector, IP54, no fan, no load flywheel, KTY,without electronic nameplate, for 9300 without special features

**MCS 14H30LRS0P1-A24N-ST5S00N-R0SUWWA**