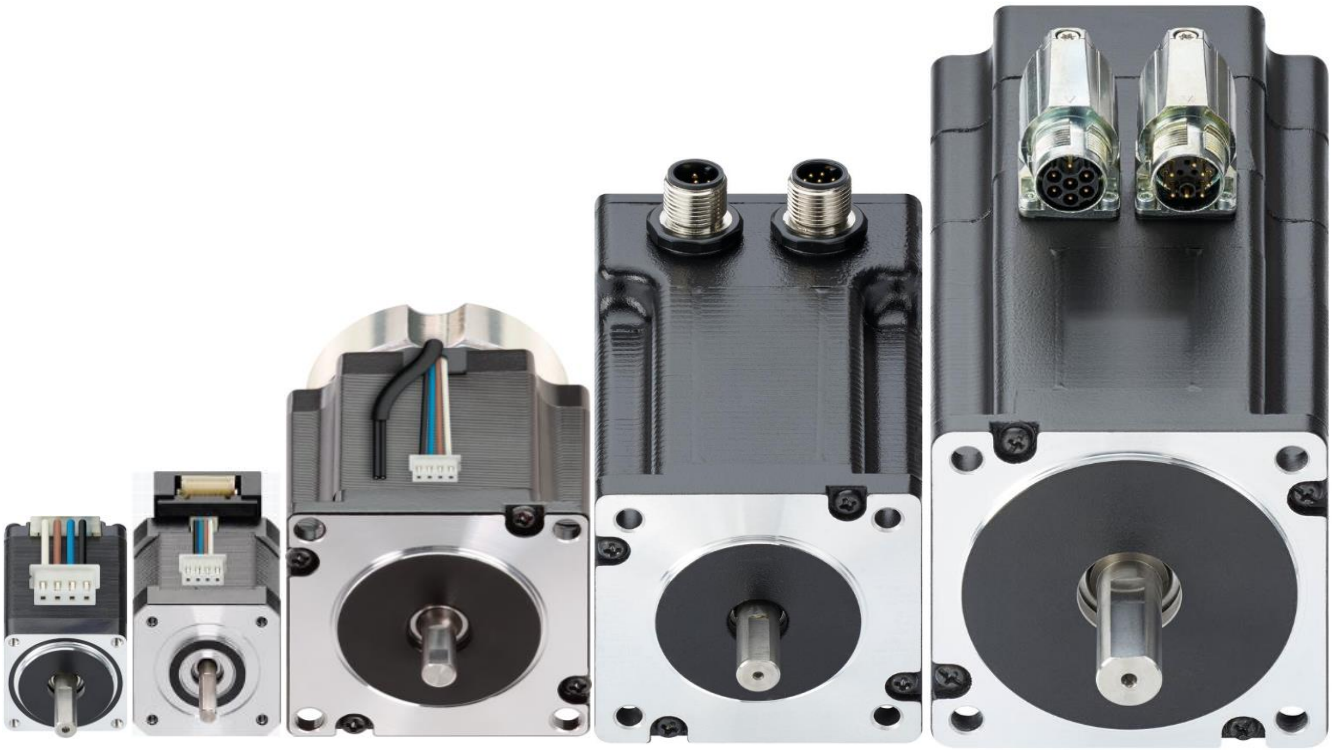
stepper motor



- 2-phase hybrid stepper motor (bipolar)
- high protection class
- with plug or stranded wires
- optional with encoder / brake

part number (not configurable, only for illustration)

MOT – AN – S – 060 – 020 – 056 – M – A – AAAA

specifics	
AAAA	standard
AAAC	incremental encoder
AAAD	incremental encoder & brake
AAAO	short size
AAAS	incremental encoder & IP65

options	
A	without
B	brake
C	encoder
D	encoder and brake

motor connection	
M	metric plug
L	stranded wire

flange dimension	
020	20mm (NEMA8)
028	28mm (NEMA11)
035	35mm (NEMA14)
042	42mm (NEMA17)
056	56mm (NEMA23)
060	60mm (NEMA24)
086	86mm (NEMA34)

holding torque	
001	0,1Nm
002	0,2Nm
005	0,5Nm
010	1,0Nm
017	1,7Nm
020	2,0Nm
035	3,5Nm
036	3,6Nm
059	5,9Nm

max voltage	
060	60VDC

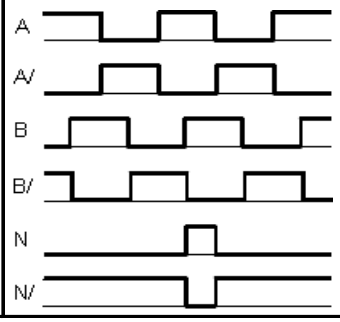
motor type	
S	stepper motor

type	
AN	version

product group	
MOT	motor

technical data						
flange dimension		**20(NEMA8)**	**28(NEMA11)**	**35(NEMA14)**	**42(NEMA17)**	**56(NEMA23)**
motor						
max voltage	[VDC]	60	60	60	60	60
nominal voltage	[VDC]	24-48	24-48	24-48	24-48	24-48
intermittent operation	[A] at 25°C	0,6	1,0	1,2	1,8	4,2
continuous operation	[A] at 25°C	0,4	0,6	0,7	1,1	3,15
holding torque	[Nm]	0,026	0,12	0,2	0,5	2,0
detent torque	[Nm]	0,002	0,004	0,010	0,022	0,068
step angle	[°]	1,8 ±5%	1,8 ±5%	1,8 ±5%	1,8 ±5%	1,8 ±5%
resistance / phase	[Ω]	5,8 ±10%	2,30 ±10%	2,5 ±10%	1,75 ±10%	0,50 ±10%
inductance / phase	[mH]	2 ±20%	1,80 ±20%	3 ±20%	3,30 ±20%	2,20 ±20%
dielectric strength	[VAC]	500	500	500	500	500
moment of inertia / rotor	[kgcm²]	0,0032	0,018	0,022	0,082	0,48
max. shaft load axial	[N]	4	7	7	7	15
max. shaft load radial	[N]	10	20	20	20	52

technical data						
flange dimension		**60(NEMA24)**	**86(NEMA34)**	**86(NEMA34)**		
motor						
max voltage	[VDC]	60	60	60		
nominal voltage	[VDC]	24-48	24-48	24-48		
intermittent operation	[A] at 25°C	4,2	6,4	7,0		
continuous operation	[A] at 25°C	3,15	4,8	5,25		
holding torque	[Nm]	3,5	5,9	12,0		
detent torque	[Nm]	0,075	0,210	0,360		
step angle	[°]	1,8 ±5%	1,8 ±5%	1,8 ±5%		
resistance / phase	[Ω]	0,65 ±10%	0,33 ±10%	0,45 ±10%		
inductance / phase	[mH]	3,20 ±20%	3,00 ±20%	5,2 ±20%		
dielectric strength	[VAC]	500	500	500		
moment of inertia / rotor	[kgcm²]	0,84	2,70	4,00		
max. shaft load axial	[N]	15	65	60		
max. shaft load radial	[N]	63	200	220		

encoder (incremental)		
operating voltage	[VDC]	5
impulse / turn		500
zero impulse / index		yes
line-driver		RS422 protocol
signal sequence (motor rotation clockwise)	CW	

brake		20(NEMA8)	28(NEMA11)	35(NEMA14)	42(NEMA17)	56(NEMA23)
operating voltage	[VDC]	-	-	24 ±10%	24 ±10%	24 ±10%
wattage	[W]	-	-	6	8	10
holding torque (metric connector)	[Nm]	-	-	-	0,4	1,0
holding torque (stranded wire)	[Nm]	-	-	0,3	0,5	1,0
backlash (stranded wire)	[°]	-	-	1,5	1,5	1,5
A **brake-grinding-process** is necessary for the initial start-up or if the brake was inactive for a long time.		Let the motor run at 200 rpm with the brake open, then apply the brake five times for 0.5 s.				
moment of inertia	[kgcm²]	-	-	0,02	0,01	0,02
operating condition		The brake may closed not till then the motor idleness.				

brake		60(NEMA24)	86(NEMA34)	86(NEMA34)		
operating voltage	[VDC]	24 ±10%	24 ±10%	24 ±10%	-	-
wattage	[W]	10	11	12	-	-
holding torque (metric connector)	[Nm]	1,0	2,0	-	-	-
holding torque (stranded wire)	[Nm]	1,0	2,0	4,0	-	-
backlash (stranded wire)	[°]	1,5	1,5	1,5	-	-
A **brake-grinding-process** is necessary for the initial start-up or if the brake was inactive for a long time.		Let the motor run at 200 rpm with the brake open, then apply the brake five times for 0.5 s.				
moment of inertia	[kgcm²]	0,02	0,07	0,07	-	-
operating condition		The brake may closed not till then the motor idleness.				

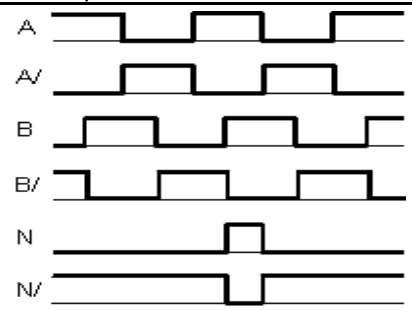
weight		20(NEMA8)	28(NEMA11)	35(NEMA14)	42(NEMA17)	56(NEMA23)
stranded wires (JST)	[kg]	0,082	0,20	0,20	0,38	1,04
plug (M12)	[kg]	-	0,22	-	0,43	1,12
encoder (JST)	[kg]	0,092	0,27	0,28	0,40	1,05
encoder (M12)	[kg]	-	-	-	0,45	1,14
stranded wires (JST) and brake	[kg]	-	-	0,38	0,50	1,30
encoder and brake	[kg]	-	-	-	0,58	1,36

weight		60(NEMA24)	86(NEMA34)	86(NEMA34)		
stranded wires (JST)	[kg]	1,45	2,90	5,00		
plug (M12)	[kg]	1,56	3,20	-		
encoder (JST)	[kg]	1,35	2,95	5,05		
encoder (M12)	[kg]	1,58	3,30	-		
stranded wires (JST) and brake	[kg]	1,70	3,30	5,50		
encoder and brake	[kg]	1,82	3,60	-		

operating data		
ambient temperature	[°C]	-10 …+50
max temperature rise	[°C]	80
insulation class	[°C]	B 130
humidity (not condensing)	[%]	85
protection class engine case		IP65 shaft sealing, IP65 (shaft seal IP52), stranded wires IP40
CE		EMC guideline

technical data						
flange dimension		**28(NEMA11)**	**35(NEMA14)**	**42(NEMA17)**	**56(NEMA23)**	**60(NEMA24)**
motor						
max voltage	[VDC]	60	60	60	60	60
nominal voltage	[VDC]	24-48	24-48	24-48	24-48	24-48
intermittent operation	[A] at 25°C	0,7	1,2	1,4	2,8	4,3
continuous operation	[A] at 25°C	0,42	0,72	0,84	2,1	3,23
holding torque	[Nm]	0,061	0,1	0,2	1,0	1,7
detent torque	[Nm]	0,003	0,008	0,012	0,03	0,05
step angle	[°]	1,8 ±5%	1,8 ±5%	1,8 ±5%	1,8 ±5%	1,8 ±5%
resistance / phase	[Ω]	5,6 ±10%	1,7 ±10%	1,7 ±10%	0,7 ±10%	0,45 ±10%
inductance / phase	[mH]	4,0 ±20%	1,6 ±20%	2,0 ±20%	2,0 ±20%	1,4 ±20%
dielectric strength	[VAC]	500	500	500	500	500
moment of inertia / rotor	[kgcm²]	0,009	0,011	0,038	0,230	0,350
max. shaft load axial	[N]	15	15	25	40	40
max. shaft load radial	[N]	30	30	30	70	70

technical data						
flange dimension		**86(NEMA34)**				
motor						
max voltage	[VDC]	60				
nominal voltage	[VDC]	24-48				
intermittent operation	[A] at 25°C	6,4				
continuous operation	[A] at 25°C	4,8				
holding torque	[Nm]	3,6				
detent torque	[Nm]	0,15				
step angle	[°]	1,8 ±5%				
resistance / phase	[Ω]	0,3 ±10%				
inductance / phase	[mH]	1,9 ±20%				
dielectric strength	[VAC]	500				
moment of inertia / rotor	[kgcm²]	0,850				
max. shaft load axial	[N]	65				
max. shaft load radial	[N]	220				

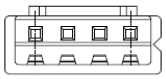
encoder (incremental)		
operating voltage	[VDC]	5
impulse / turn		500
zero impulse / index		yes
line-driver		RS422 protocol
signal sequence (motor rotation clockwise)	CW	

weight		28(NEMA11)	35(NEMA14)	42(NEMA17)	56(NEMA23)	60(NEMA24)
stranded wires (JST)	[kg]	0,11	0,12	0,17	0,61	0,75
stranded wires (JST) and encoder	[kg]	0,125	0,20	0,18	0,63	0,80

weight		86(NEMA34)				
stranded wires (JST)	[kg]	1,80	-	-	-	-
stranded wires (JST) and encoder	[kg]	1,85	-	-	-	-

operating data		
ambient temperature	[°C]	-10 …+50
max temperature rise	[°C]	80
insulation class	[°C]	B 130
humidity (not condensing)	[%]	85
protection class engine case		IP65 shaft sealing, IP65 (shaft seal IP52), stranded wires IP40
CE		EMC guideline

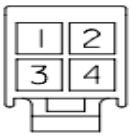
pin assignment wire motor
flange dimension 20,28,35,42,56,60(NEMA8,11,14,17,23,2



motor bipolar			**motor wires**
JST XHP-4			wires*/ cable
pin	signal	coil	color
1	A	1	white
2	A/		brown
3	B	2	blue
4	B/		black

* wire length 250mm

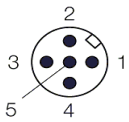
pin assignment wire motor
flange dimension 86(NEMA34)

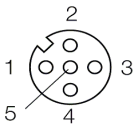


Motor bipolar			**motor wires**
Molex 469920410			wires*
pin	signal	coil	color
1	A	1	white
2	A/		brown
3	B	2	blue
4	B/		black

* wire length 300mm

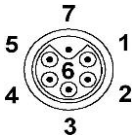
pin assignment M12 motor
flange dimension 28,42,56,60(NEMA11,17,23,24)

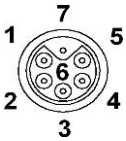




motor bipolar			**motor cable**
M12 5-pole			M12 5-pole
pin	signal	coil	color
1	A/	1	brown
2	A		white
3	B	2	blue
4	B/		black
5	PE		green/yellow
housing	shielding		-

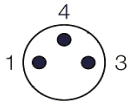
pin assignment M17 motor (swivels ± 90°)
flange dimension 86(NEMA34)

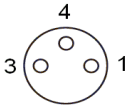




motor bipolar			**motor cable**
M17 7-pole			M17 7-pole
pin	signal	coil	number
1	A/	1	1
2	A		2
3	B	2	3
4	B/		4
5	brake 24V		5
6	brake 0V		6
7	PE		green/yellow
housing	shielding		shielding

pin assignmen brake
flange dimension 42,56,60(NEMA17,23,24)





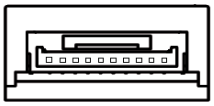
brake		**brake cable**
M8 3-pole		M8 3-pole
pin	signal	color
1	brake (24V)	brown
3	0V	blue
4	-	black

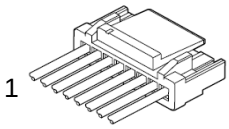
pin assignmen wire brake (swivels ± 90°)
flange dimension 35,42,56,60,86(NEMA14,17,23,24,34)

brake		
wire 2-pole Molex 46992-0410		
pin	signal	color
-	brake	black
-	brake	black

* 24V (Polarity does not have to be taken into account)

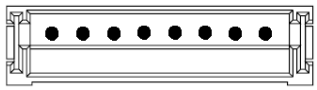
pin assignment wire encoder
flange dimension 20,28(NEMA8,11)

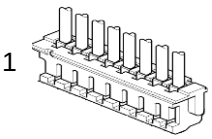




encoder connector		encoder cable
JST / SM10B-GHS-TB		JST / GHR-10V-S
pin	signal	color
1	shielding	shielding
2	A	white
3	A/	brown
4	B/	green
5	B	yellow
6	N/	grey
7	N	pink
8	0V	blue
9	5V DC	red
10	shielding	shielding

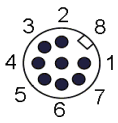
pin assignment wire encoder
flange dimension 35,42,56,60,86(NEMA14,17,23,24,34)

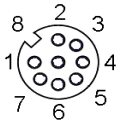




encoder connector		encoder cable
JST / B8B-ZR-SM4-TF		JST / ZHR-8
pin	signal	color
1	0V	blue
2	5V DC	red
3	A	white
4	A/	brown
5	B/	green
6	B	yellow
7	N/	grey
8	N	pink

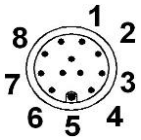
pin assignment M12 encoder
flange dimension 42,56,60(NEMA17,23,24)

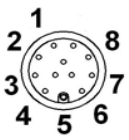




encoder		encoder cable
M12 8-pole		M12 8-pole
pin	signal	color
1	A	white
2	A/	brown
3	B	green
4	B/	yellow
5	0V	grey
6	N/	pink
7	N	blue
8	5V DC	red
housing	shielding	shielding

pin assignment M17 encoder (swivels ± 90°)
flange dimension 86(NEMA34)

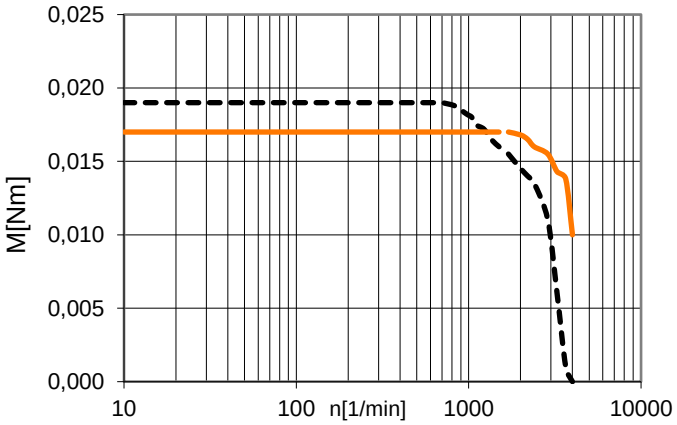




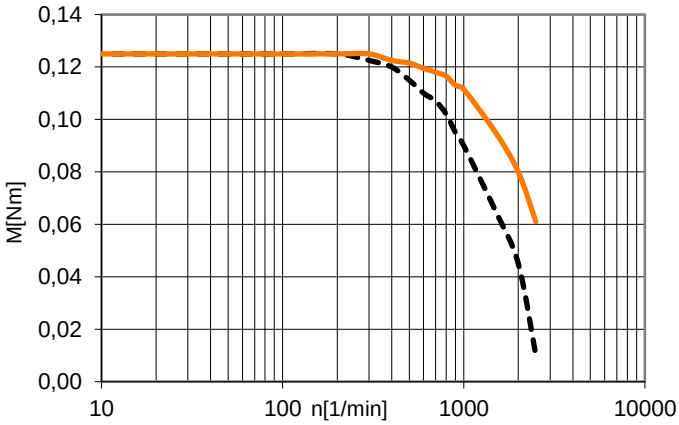
encoder		encoder cable
M17 12-pole		M17 12-pole
pin	signal	color
1	A	brown
2	A/	green
3	B	blue
4	B/	violet
5	0V	white 0,5²
6	N/	grey
7	N	pink
8	5V DC	brown 0,5²
9	-	-
10	-	-
11	-	-
12	-	-
housing	shielding	shielding

characteristic

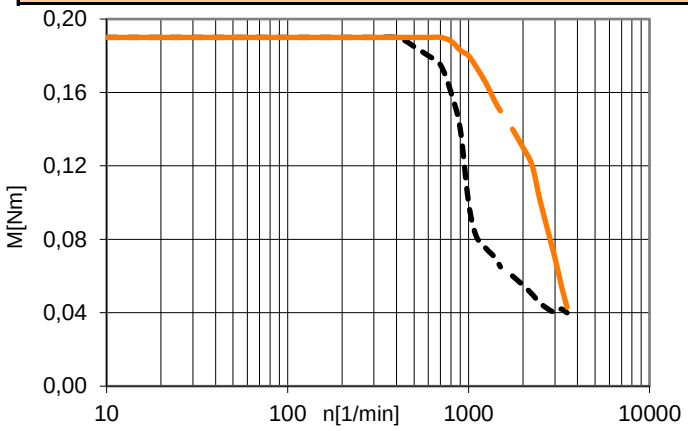
flange dimension 20 (NEMA8)
MOT-AN-S-060-001-020-...



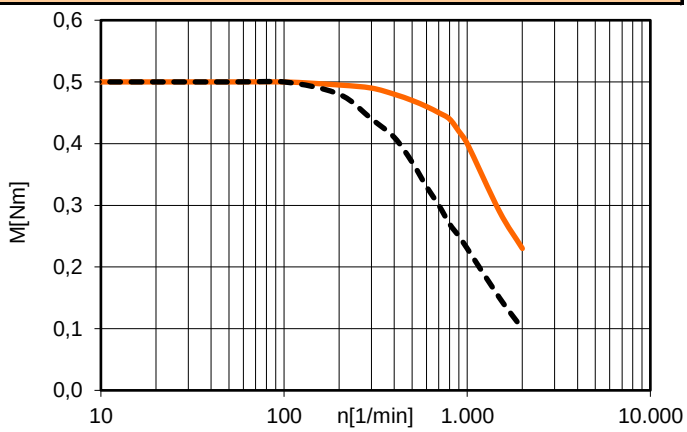
flange dimension 28 (NEMA11)
MOT-AN-S-060-001-028-…



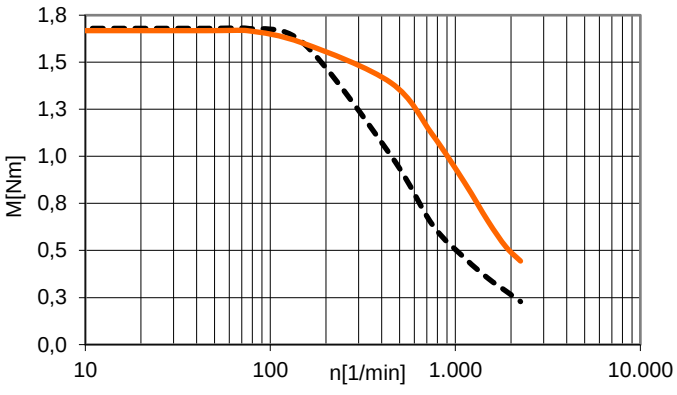
flange dimension 35 (NEMA14)
MOT-AN-S-060-002-035-…



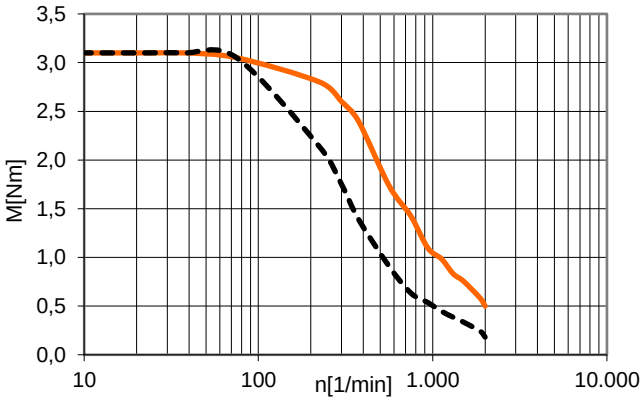
flange dimension 42 (NEMA17)
MOT-AN-S-060-005-042-…



flange dimension 56 (NEMA23)
MOT-AN-S-060-020-056-…



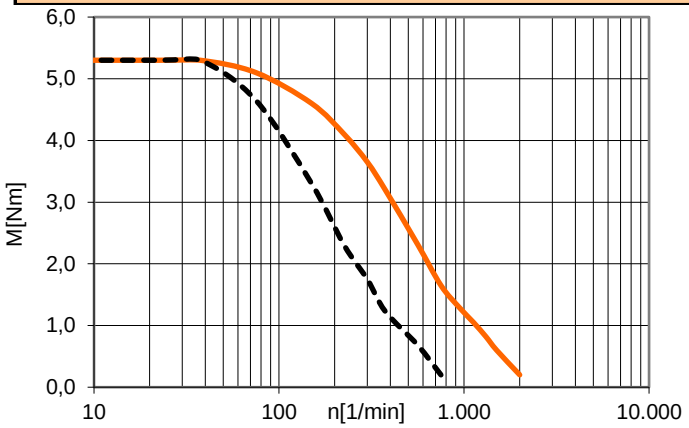
flange dimension 60 (NEMA24)
MOT-AN-S-060-035-060-…



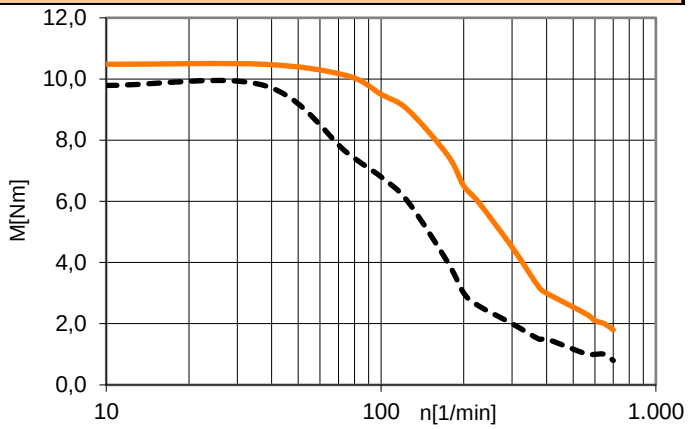
- - - - - 24VDC ——— 48 VDC characteristic based on quarter step mode

characteristic

flange dimension 86 (NEMA34)
MOT-AN-S-060-059-086-…



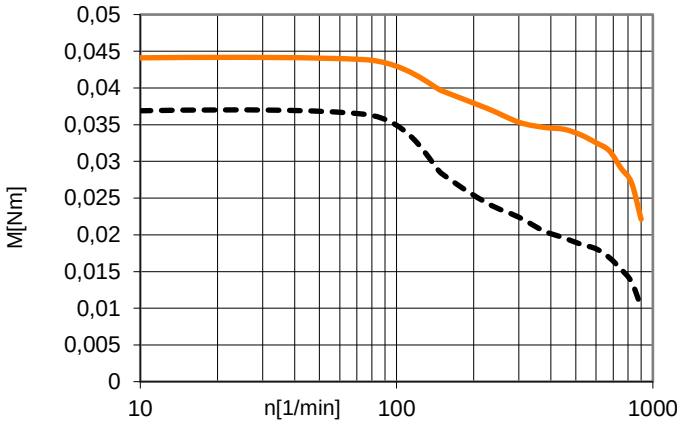
flange dimension 86 (NEMA34)
MOT-AN-S-060-112-086-…



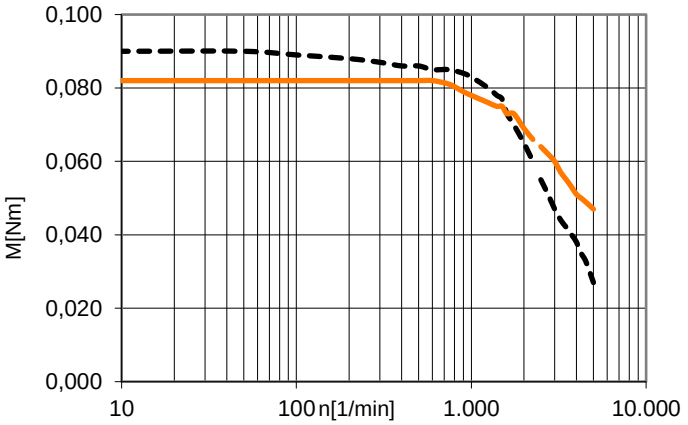
- - - - - 24VDC ——— 48 VDC characteristic based on quarter step mode

characteristic

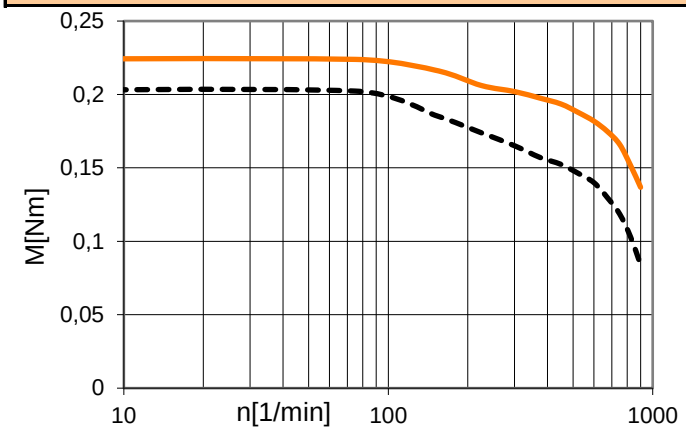
flange dimension 28 (NEMA11)
MOT-AN-S-060-001-028-...



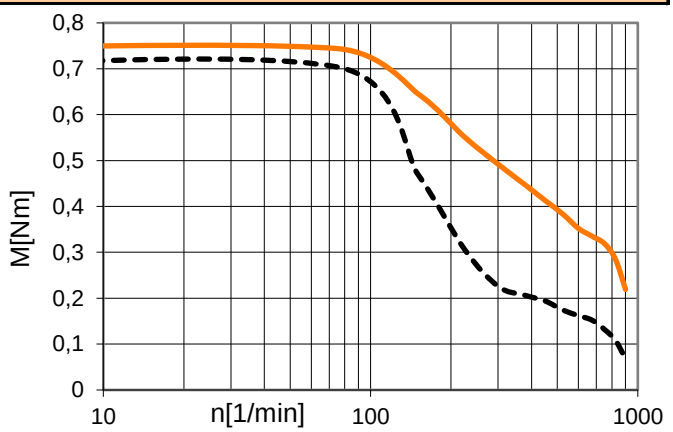
flange dimension 35 (NEMA14)
MOT-AN-S-060-001-035-...



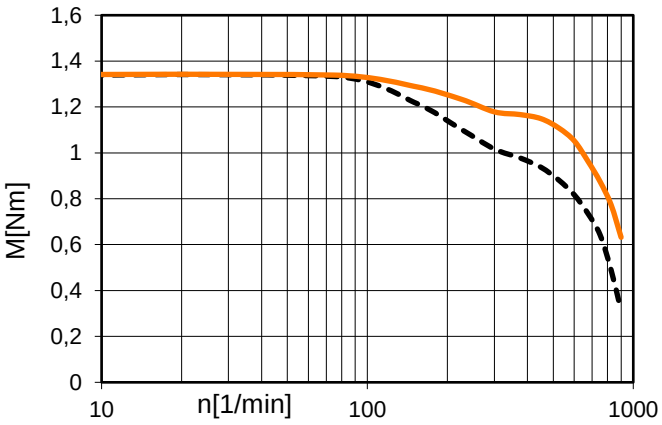
flange dimension 42 (NEMA17)
MOT-AN-S-060-002-042-…



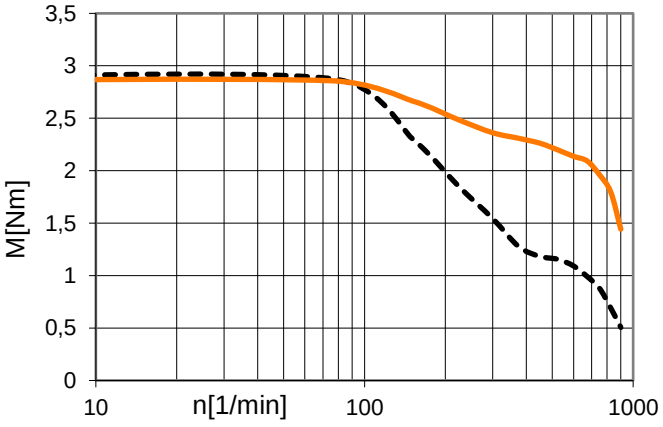
flange dimension 56 (NEMA23)
MOT-AN-S-060-010-056-…



flange dimension 60 (NEMA24)
MOT-AN-S-060-016-060-…

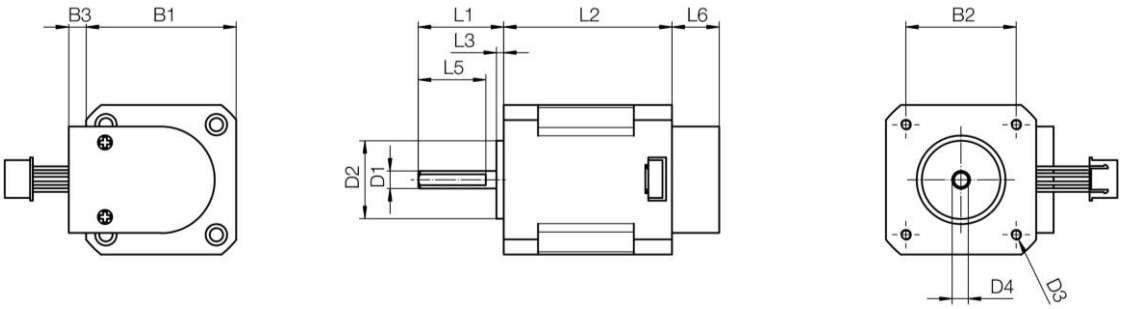


flange dimension 86 (NEMA34)
MOT-AN-S-060-036-086-…



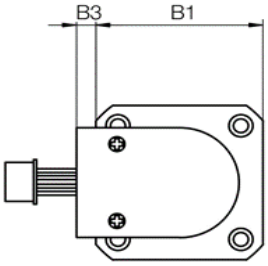
- - - - - 24VDC ——— 48 VDC characteristic based on quarter step mode

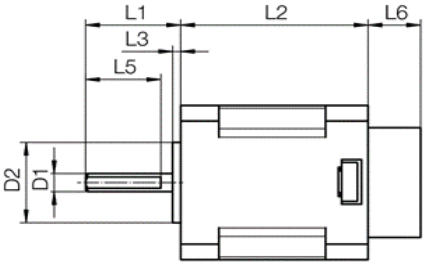
dimensions

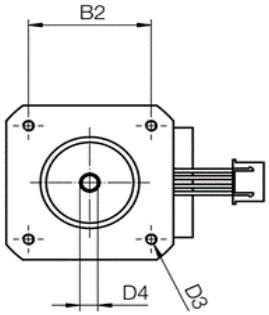


Typ	B1 [mm] ±1	B2 [mm] ±1	B3 [mm]	D1 Ø [mm] -0,015	D2 Ø [mm] ±0,05	D3 Ø [mm] +0,5	D4 [mm] ±0,15	L1 [mm] ±1	L2 [mm] ±1	L3 [mm]	L4 [mm]	L5 [mm] ±1	L6 [mm] ±1
MOT-AN-S-060-001-020-L-A-AAAA	20,0	15,40	-	4,00	16,00	M2	3,5	20,0	40	1,6	-	15,0	-
MOT-AN-S-060-001-020-L-A-AAAC	20,0	15,40	-	4,00	16,00	M2	3,5	20,0	40	1,6	-	15,0	-
MOT-AN-S-060-001-028-L-A-AAAA	28,0	23,00	-	5,00	22,00	M2,5-3,5	4,5	20,0	50,5	2,0	-	15,0	-
MOT-AN-S-060-001-028-L-A-AAAO	28,0	23,00	-	5,00	22,00	M2,5-3,5	4,5	20,0	31,5	2,0	-	15,0	-
MOT-AN-S-060-001-028-L-C-AAAC	28,0	23,00	-	5,00	22,00	M2,5-3,5	4,5	20,0	50,5	2,0	-	15,0	10,0
MOT-AN-S-060-001-028-L-C-AAAO	28,0	23,00	-	5,00	22,00	M2,5-3,5	4,5	20,0	31,5	2,0	-	15,0	10,0
MOT-AN-S-060-001-028-M-A-AAAA	28,0	23,00	13	5,00	22,00	M2,5-3,5	4,5	20,0	70,3	2,0	-	15,0	-
MOT-AN-S-060-001-035-L-A-AAAO	35,0	26,00	-	5,00	22,00	M3	4,5	24,0	28	1,6	-	19,0	-
MOT-AN-S-060-001-035-L-C-AAAO	35,0	26,00	-	5,00	22,00	M3	4,5	24,0	28	1,6	-	19,0	15,7
MOT-AN-S-060-002-035-L-A-AAAA	35,0	26,00	-	5,00	22,00	M3	4,5	24,0	42	1,6	-	19,0	-
MOT-AN-S-060-002-035-L-B-AAAA	35,0	26,00	-	5,00	22,00	M3	4,5	24,0	42	1,6	-	19,0	29,2
MOT-AN-S-060-002-035-L-C-AAAC	35,0	26,00	-	5,00	22,00	M3	4,5	24,0	42	1,6	-	19,0	15,7
MOT-AN-S-060-002-042-L-A-AAAO	42,3	31,00	-	5,00	22,00	M3-4,5	4,5	24,0	30,5	2,0	-	19,0	-
MOT-AN-S-060-005-042-L-A-AAAA	42,3	31,00	-	5,00	22,00	M3-4,5	4,5	24,0	48	2,0	-	19,0	-
MOT-AN-S-060-005-042-L-B-AAAA	42,3	31,00	-	5,00	22,00	M3-4,5	4,5	24,0	48	2,0	-	19,0	29,7
MOT-AN-S-060-002-042-L-C-AAAO	42,3	31,00	-	5,00	22,00	M3-4,5	4,5	24,0	30,5	2,0	-	19,0	15,7
MOT-AN-S-060-005-042-L-C-AAAC	42,3	31,00	-	5,00	22,00	M3-4,5	4,5	24,0	49	2,0	-	19,0	15,7
MOT-AN-S-060-005-042-M-A-AAAA	42,3	31,00	13	5,00	22,00	M3-4,5	4,5	24,0	70,4	2,0	-	19,0	-
MOT-AN-S-060-005-042-M-C-AAAC	42,3	31,00	13	5,00	22,00	M3-4,5	4,5	24,0	70,4	2,0	-	19,0	-
MOT-AN-S-060-005-042-M-C-AAAS	42,3	31,00	13	5,00	22,00	M3-4,5	4,5	24,0	72,7	2,0	-	19,0	-
MOT-AN-S-060-005-042-M-D-AAAD	42,3	31,00	13	5,00	22,00	M3-4,5	4,5	24,0	106,4	2,0	-	19,0	-
MOT-AN-S-060-010-056-L-A-AAAO	56,4	47,14	-	6,35	38,10	5,0	5,8	20,6	50	1,6	5	16,0	-
MOT-AN-S-060-010-056-L-C-AAAO	56,4	47,14	-	6,35	38,10	5,0	5,8	20,6	50	1,6	5	16,0	15,7
MOT-AN-S-060-016-060-L-A-AAAO	60,0	47,14	-	8,00	38,10	4,5	7,5	20,6	56	1,6	6	16,0	-
MOT-AN-S-060-016-060-L-C-AAAO	60,0	47,14	-	8,00	38,10	4,5	7,5	20,6	56	1,6	6	16,0	15,7
MOT-AN-S-060-020-056-L-A-AAAA	56,4	47,14	-	6,35	38,10	5,0	5,8	20,6	76	1,6	5	16,0	-
MOT-AN-S-060-020-056-L-B-AAAA	56,4	47,14	-	6,35	38,10	5,0	5,8	20,6	76	1,6	5	16,0	28,5
MOT-AN-S-060-020-056-L-C-AAAC	56,4	47,14	-	6,35	38,10	5,0	5,8	20,6	76	1,6	5	16,0	15,7
MOT-AN-S-060-020-056-M-A-AAAA	56,4	47,14	13	6,35	38,10	5,0	5,8	20,6	98	1,6	5	16,0	-
MOT-AN-S-060-020-056-M-C-AAAC	56,4	47,14	13	6,35	38,10	5,0	5,8	20,6	98	1,6	5	16,0	-
MOT-AN-S-060-020-056-M-C-AAAS	56,4	47,14	13	6,35	38,10	5,0	5,8	20,6	99	1,6	6	16,0	-
MOT-AN-S-060-020-056-M-D-AAAD	56,4	47,14	13	6,35	38,10	5,0	5,8	20,6	138	1,6	5	16,0	-
MOT-AN-S-060-035-060-L-A-AAAA	60,0	47,14	9	8,00	38,10	4,5	7,5	20,6	88	1,6	7	16,0	-
MOT-AN-S-060-035-060-L-B-AAAA	60,0	47,14	9	8,00	38,10	4,5	7,5	20,6	90	1,6	7	16,0	28,2
MOT-AN-S-060-035-060-L-C-AAAC	60,0	47,14	9	8,00	38,10	4,5	7,5	20,6	88	1,6	7	16,0	15,7
MOT-AN-S-060-035-060-M-A-AAAA	60,0	47,14	13	8,00	38,10	4,5	7,5	20,6	112	1,6	7	16,0	-
MOT-AN-S-060-035-060-M-C-AAAC	60,0	47,14	13	8,00	38,10	4,5	7,5	20,6	112	1,6	7	16,0	-
MOT-AN-S-060-035-060-M-C-AAAS	60,0	47,14	13	8,00	38,10	4,5	7,5	20,6	112	1,6	7	16,0	-
MOT-AN-S-060-035-060-M-D-AAAD	60,0	47,14	13	8,00	38,10	4,5	7,5	20,6	152	1,6	7	16,0	-

dimensions







Typ	B1 [mm] ±1	B2 [mm] ±1	B3 [mm] ±1	D1 Ø [mm] -0,015	D2 Ø [mm] ±0,05	D3 Ø [mm]	D4 [mm] ±0,15	L1 [mm] ±1	L2 [mm] ±1	L3 [mm]	L4 [mm]	L5 [mm] ±1	L6 [mm] ±1
MOT-AN-S-060-036-086-L-A-AAAO	85,8	69,50	-	14,00	73,02	6,6	13,0	37,0	66	2,0	10	32,0	-
MOT-AN-S-060-036-086-L-C-AAAO	85,8	69,50	-	14,00	73,02	6,6	13,0	37,0	66	2,0	10	32,0	15,7
MOT-AN-S-060-059-086-L-A-AAAA	85,8	69,50	-	14,00	73,02	6,6	13,0	37,0	98	2,0	10	32,0	-
MOT-AN-S-060-059-086-L-B-AAAA	85,8	69,50	-	14,00	73,02	6,6	13,0	37,0	98	2,0	10	32,0	32,0
MOT-AN-S-060-059-086-L-C-AAAC	85,8	69,50	-	14,00	73,02	6,6	13,0	37,0	98	2,0	10	32,0	15,7
MOT-AN-S-060-059-086-M-A-AAAA	85,8	69,50	37	14,00	73,02	6,6	13,0	37,0	118	2,0	8	32,0	-
MOT-AN-S-060-059-086-M-C-AAAC	85,8	69,50	37	14,00	73,02	6,6	13,0	37,0	118	2,0	8	32,0	-
MOT-AN-S-060-059-086-M-D-AAAD	85,8	69,50	37	14,00	73,02	6,6	13,0	37,0	188	2,0	8	32,0	-
MOT-AN-S-060-112-086-L-A-AAAA	85,8	69,60	-	14,00	73,00	6,5	13,0	37,0	150	1,6	10	32,0	-
MOT-AN-S-060-112-086-L-B-AAAA	85,8	69,60	-	14,00	73,00	6,5	13,0	37,0	150	1,6	10	32,0	32,0
MOT-AN-S-060-112-086-L-C-AAAC	85,8	69,60	-	14,00	73,00	6,5	13,0	37,0	150	1,6	10	32,0	15,7

connecting cable part number	outer jacket	type	cable length	plug
flange dimension 28(NEMA11), 42(NEMA17), 56(NEMA23), 60(NEMA24)				
motor	**cable Ø: 5,5 mm / bending radius moved < 10m travel distance: min. 5 x d**			
DLE904121451-3 (MAT9043737 old)	TPE	CF9.03.05.INI	3	straight
DLE904121451-5 (MAT9043738 old)	TPE	CF9.03.05.INI	5	straight
DLE904121451-10 (MAT9043740 old)	TPE	CF9.03.05.INI	10	straight
DLE904121452-3 (MAT9043742 old)	TPE	CF9.03.05.INI	3	angulate
DLE904121452-5 (MAT9043743 old)	TPE	CF9.03.05.INI	5	angulate
DLE904121452-10 (MAT9043745 old)	TPE	CF9.03.05.INI	10	angulate
encoder	**cable Ø: 7 mm / bending radius moved < 10m travel distance: min. 10 x d**			
DLE904121455-3 (MAT90432594-3 old)	PVC	CF240.02.08	3	straight
DLE904121455-5 (MAT90432594-5 old)	PVC	CF240.02.08	5	straight
DLE904121455-10 (MAT90432594-10 old)	PVC	CF240.02.08	10	straight
DLE904121456-3 (MAT90436430-3 old)	PVC	CF240.02.08	3	angulate
DLE904121456-5 (MAT90436430-5 old)	PVC	CF240.02.08	5	angulate
DLE904121456-10 (MAT90436430-10 old)	PVC	CF240.02.08	10	angulate
flange dimension 86(NEMA34)				
motor	**cable Ø: 10,5 mm / bending radius moved < 10m travel distance: min. 6,8 x d**			
DLE904121457-3 (MAT90439520-3 old)	PUR	CF78.UL.07.07	3	straight
DLE904121457-5 (MAT90439520-5 old)	PUR	CF78.UL.07.07	5	straight
DLE904121457-10 (MAT90439520-10 old)	PUR	CF78.UL.07.07	10	straight
encoder	**cable Ø: 8 mm / bending radius moved < 10m travel distance: min.. 10 x d**			
DLE904121458-3 (MAT90439519-3 old)	PVC	CF211.009	3	straight
DLE904121458-5 (MAT90439519-5 old)	PVC	CF211.009	5	straight
DLE904121458-10 (MAT90439519-10 old)	PVC	CF211.009	10	straight
flange dimension 42(NEMA17), 56(NEMA23), 60(NEMA24)				
brake	**cable Ø: 4,5 mm / bending radius moved < 10m travel distance: min. 5 x d**			
DLE904121453-3 (MAT9043716 old)	TPE	CF9.02.03.INI	3	straight
DLE904121453-5 (MAT9043717 old)	TPE	CF9.02.03.INI	5	straight
DLE904121453-10 (MAT9043719 old)	TPE	CF9.02.03.INI	10	straight
DLE904121454-3 (MAT9043724 old)	TPE	CF9.02.03.INI	3	angulate
DLE904121454-5 (MAT9043725 old)	TPE	CF9.02.03.INI	5	angulate
DLE904121454-10 (MAT9043727 old)	TPE	CF9.02.03.INI	10	angulate

cable wire motor part number	outer jacket	type	cable length	plug
flange dimension 20(NEMA8), 28(NEMA11),35(NEMA14), 42(NEMA17), 56(NEMA23), 60(NEMA24)				
motor	**cable Ø: 5,5 mm / bending radius moved < 10m travel distance: min. 5 x d**			
DLE904121461-3 (MAT90490015-3 alt)	TPE	CF9.03.05.INI	3	straight
DLE904121461-5 (MAT90490015-5 alt)	TPE	CF9.03.05.INI	5	straight
DLE904121461-10 (MAT90490015-10 alt)	TPE	CF9.03.05.INI	10	straight
flange dimension 86(NEMA34)				
motor	**cable Ø: 7 mm / bending radius moved < 10m travel distance: min. 5 x d**			
DLE904161278-3 (MAT0172104-3 alt)	TPE	CF880.07.05	3	straight
DLE904161278-5 (MAT0172104-5 alt)	TPE	CF880.07.05	5	straight
DLE904161278-10 (MAT0172104-10 alt)	TPE	CF880.07.05	10	straight
encoder (also for 86(NEMA34))	**cable Ø: 7,5 mm / bending radius moved < 10m travel distance: min. 6,8 x d**			
DLE904121460-3 (MAT90476558-3 alt)	TPE	CF11.01.04.02	3	straight
DLE904121460-5 (MAT90476558-5 alt)	TPE	CF11.01.04.02	5	straight
DLE904121460-10 (MAT90476558-10 alt)	TPE	CF11.01.04.02	10	straight
encoder 20,28(NEMA8,11)	**cable Ø: 7,5 mm / bending radius moved < 10m travel distance: min. 6,8 x d**			
DLE904121459-3 (MAT90450903-3 alt)	TPE	CF11.01.04.02	3	straight
DLE904121459-5 (MAT90450903-5 alt)	TPE	CF11.01.04.02	5	straight
DLE904121459-10 (MAT90450903-10 alt)	TPE	CF11.01.04.04	10	straight
flange dimension 35(NEMA14), 42(NEMA17), 56(NEMA23), 60(NEMA24), 86(NEMA34)				
brake	**cable Ø: 4,5 mm / bending radius moved < 10m travel distance: min. 5 x d**			
DLE904172361-3	TPE	CF9.02.02	3	straight
DLE904172361-5	TPE	CF9.02.02	5	straight
DLE904172361-10	TPE	CF9.02.02	10	straight

component part

More Information about our comprehensive component parts can be found at our website www.igus.eu

motor flange


spacer


coupling



initiator / initiator bracket