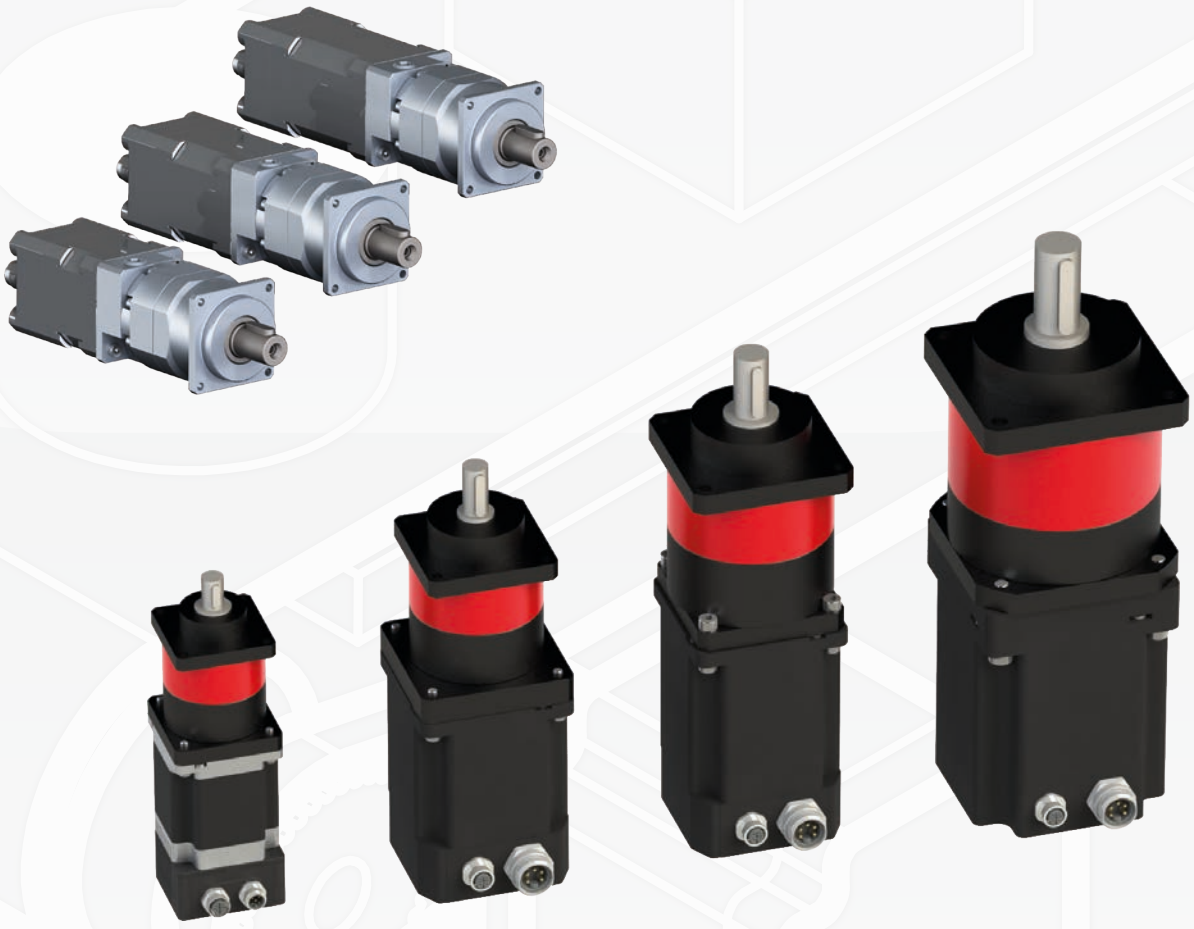
Planetary gearmotors - IPlanetaryGearSmart

Planetary gearmotors



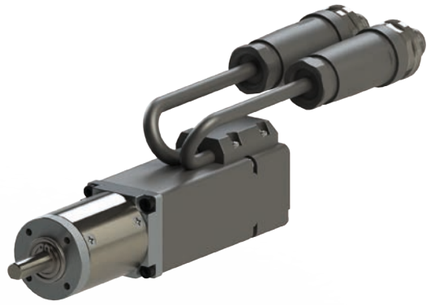
Drives & Motors

Modbus RTU Modbus TCP CANopen EtherCAT PROFIBUS PROFINET

IPG28

Technical specifications

1 Stage				
Reduction ratio	3,6	5,33	Efficiency	90%
Maximum nominal output torque (Nm) *	6	6	Max backlash	30’
			Radial force (Fr)	100 N
Maximum torque in acceleration (Nm) *	6	6	Axial force (Fa)	80 N
			Gearbox weight	0,07 Kg

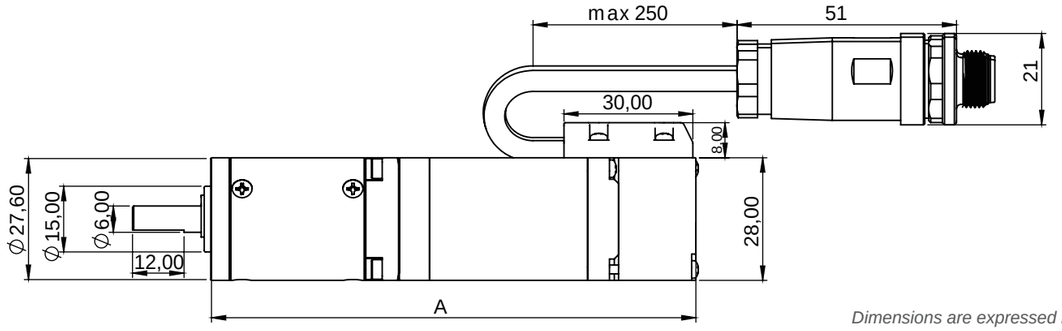


2 Stages					
Reduction ratio	12,96	19,19	28,41	Efficiency	80%
Maximum nominal output torque (Nm) *	6	6	6	Max backlash	40’
				Radial force (Fr)	100 N
Maximum torque in acceleration (Nm) *	6	6	6	Axial force (Fa)	80 N
				Gearbox weight	0,1 Kg

3 Stages					
Reduction ratio	46,65	69,07	102,27	151,42	Efficiency	70%
Maximum nominal output torque (Nm) *	6	6	6	6	Max backlash	50’
					Radial force (Fr)	100 N
Maximum torque in acceleration (Nm) *	6	6	6	6	Axial force (Fa)	80 N
					Gearbox weight	0,14 Kg

* *Maximum output torque applicable to the gearbox, independently by the torque that may be generated bt the motor.*

Mechanical drawing



Dimensions are expressed in mm

Ordering code

I	P	G	2	8	1	C	x	x	x	T	T	M	x	x	x

Size	
28	Size 28

Stages	
1	1 Stage
2	2 Stages
3	3 Stages

Reduction ratio	
3	I = 3
---	---
100	I = 100

Motor code	
Mxxx	See motors list page 10

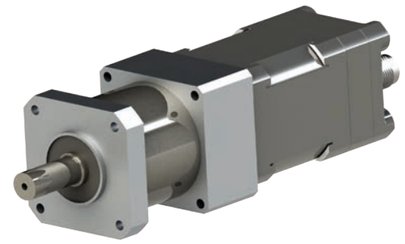
Combinable motors*	A		
	1 Stage	2 Stages	3 Stages
M28SH32-Txx	85	95	106
M28SH51-Txx	103	113	124

** Torque curves at page 8*

IPG42

Technical specifications

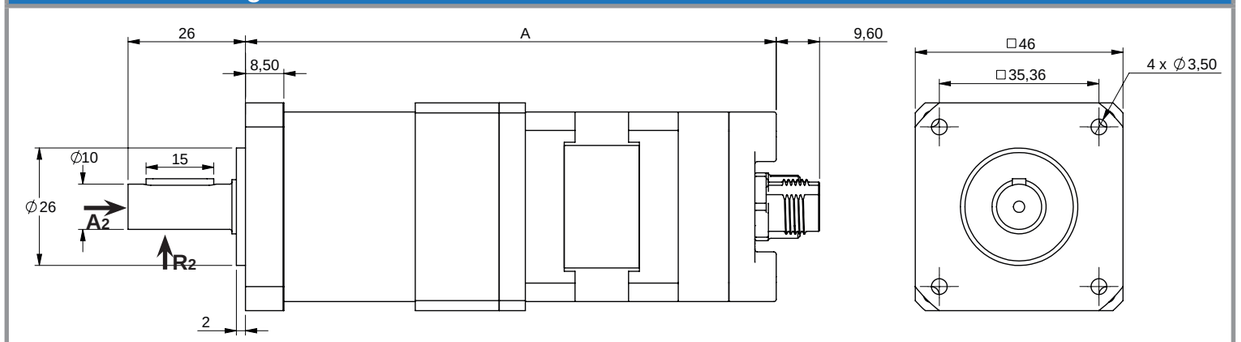
1 Stage						
Reduction ratio	3	4	5	8	Efficiency	96%
Maximum nominal output torque (Nm) *	6	9	9	7	Max backlash	10’
					Radiale force (Fr)	185 N
Maximum torque in acceleration (Nm) *	6	9	9	7	Axial force (Fa)	150 N
					Gearbox weight	0,6 Kg



2 Stages							
Reduction ratio	16	20	25	32	40	64	Efficiency	94%
Maximum nominal output torque (Nm) *	12	12	10	12	10	8	Max backlash	15’
							Radiale force (Fr)	185 N
Maximum torque in acceleration (Nm) *	12	12	10	12	10	8	Axial force (Fa)	150 N
							Gearbox weight	0,7 Kg

* *Maximum output torque applicable to the gearbox, independently by the torque that may be generated bt the motor.*

Mechanical drawing



Ordering code

I	P	G	4	2	F	1	C	x	x	S	2	P	2	M	x	x	x

Size	
42	Size 42

Stages	
1	1 Stage
2	2 Stages

Redution ratio	
3	I = 3
---	---
100	I = 100

Motor code	
Mxxx	See motors list page 10

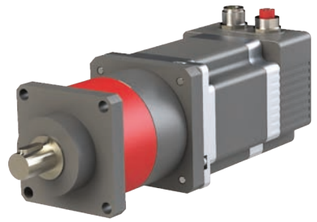
Combinable motors*	A	
	1 Stage	2 Stages
M42SH33-Txx	118	129
M42SH47-Txx	132	144
M42SH60-Txx	144	155

** Torque curves at page 8*

IPG55

Technical specifications

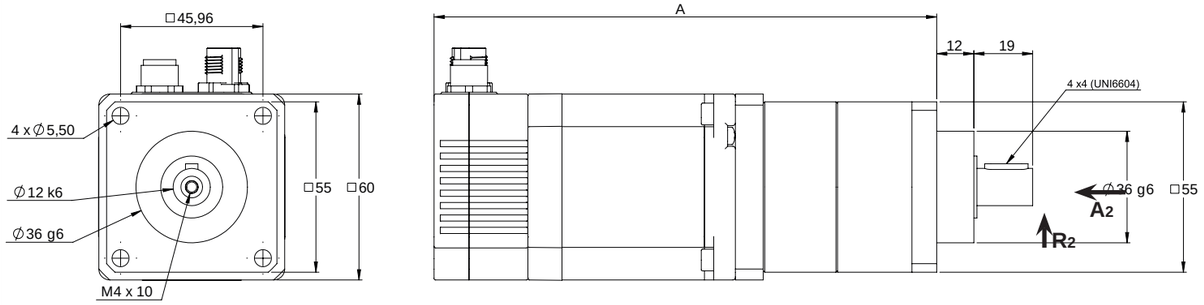
1 Stage							
Reduction ratio	3	4	5	7	10	Efficiency	96%
Maximum nominal output torque (Nm) *	12	14	16	12	10	Max backlash	8’
						Radiale force (Fr)	300 N
Maximum torque in acceleration (Nm) *	22	24	24	22	20	Axial force (Fa)	450 N
						Gearbox weight	0,8 Kg



2 Stages														
Reduction ratio	9	12	15	16	20	25	28	35	40	50	70	100	Efficiency	93%
Maximum nominal output torque (Nm) *	14	16	16	16	16	16	16	16	16	16	14	12	Max backlash	10’
													Radiale force (Fr)	300 N
Maximum torque in acceleration (Nm) *	24	28	28	28	28	28	28	28	28	28	24	22	Axial force (Fa)	450 N
													Gearbox weight	1,8 Kg

* *Maximum output torque applicable to the gearbox, independently by the torque that may be generated bt the motor.*

Mechanical drawing



Ordering code

I	P	G	5	5	1	C	x	x	T	Q	8	P	2	8	M	x	x

Size	
55	Size 55

Stages	
1	1 Stage
2	2 Stages

Input shaft	
635	6,35mm
8	8mm

Redution ratio	
3	I = 3
---	---
100	I = 100

Motor code	
Mxx	See motors list page 11

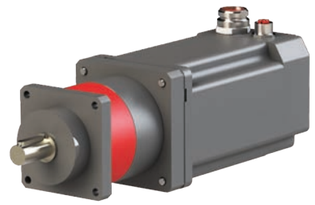
Combinable motors*	A	
	1 Stage	2 Stages
M57SH56-Txx	151	170
M57SH76-Txx	171	190
M60SH65-Txx	162	181
M60SH86-Txx	183	202

** Torque curves at page 9*

IPG75

Technical specifications

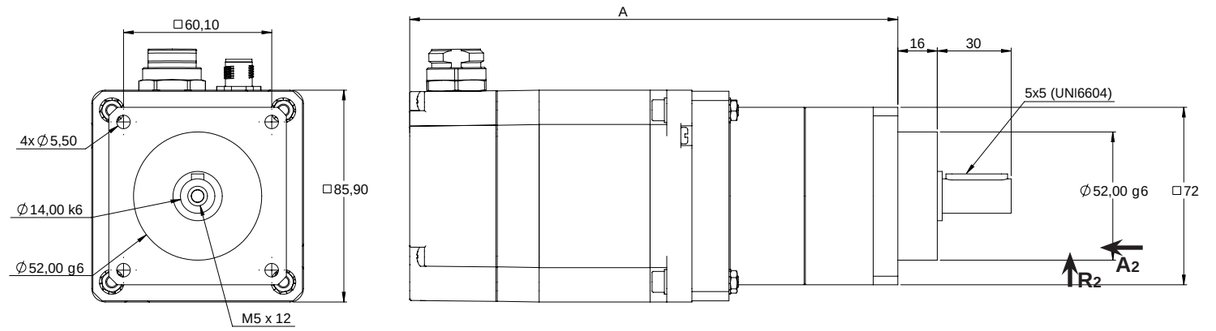
1 Stage							
Reduction ratio	3	4	5	7	10	Efficiency	96%
Maximum nominal output torque (Nm) *	22	28	32	28	20	Max backlash	8’
						Radiale force (Fr)	1800 N
Maximum torque in acceleration (Nm) *	40	45	50	45	40	Axial force (Fa)	1400 N
						Gearbox weight	1,4 Kg



2 Stages														
Reduction ratio	9	12	15	16	20	25	28	35	40	50	70	100	Efficiency	93%
Maximum nominal output torque (Nm) *	26	32	36	36	36	36	36	36	36	36	30	22	Max backlash	10’
													Radiale force (Fr)	1800 N
Maximum torque in acceleration (Nm) *	50	60	60	60	60	60	60	60	60	60	50	45	Axial force (Fa)	1400 N
													Gearbox weight	2,0 Kg

* *Maximum output torque applicable to the gearbox, independently by the torque that may be generated bt the motor.*

Mechanical drawing



Ordering code

I	P	G	7	5	1	C	x	x	T	Q	1	4	P	3	6	M	x	x

Size	
75	Size 75

Stages	
1	1 Stage
2	2 Stages

Redution ratio	
3	I = 3
---	---
100	I = 100

Motor code	
Mxx	See motors list page 12

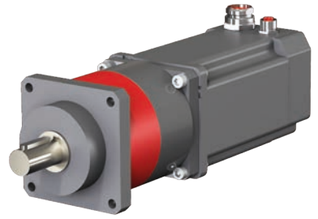
Combinable motors*	A	
	1 Stage	2 Stages
M86SH80-Txx	200	222
M86SH96-Txx	218	---
M86SH118-Txx	237	---
M86SH156-Txx	276	---

** Torque curves at page 10*

IPG90

Technical specifications

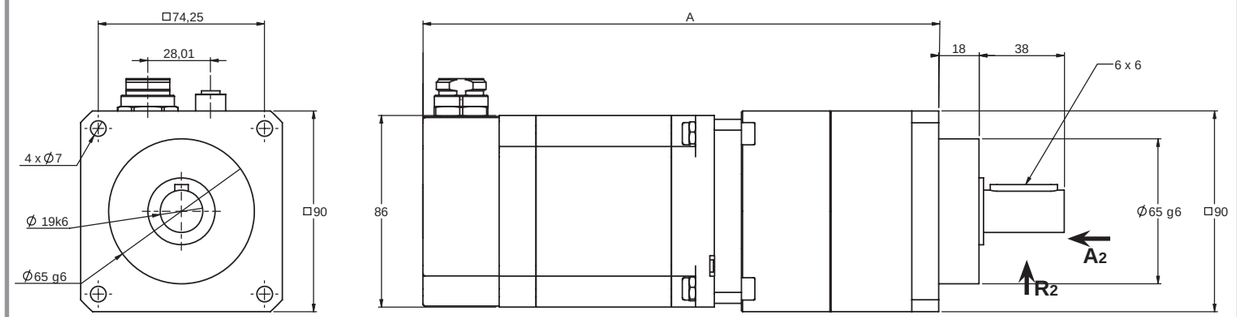
1 Stage							
Reduction ratio	3	4	5	7	10	Efficiency	96%
Maximum nominal output torque (Nm) *	50	55	60	55	50	Max backlash	8’
						Radiale force (Fr)	2600 N
Maximum torque in acceleration (Nm) *	80	90	100	90	80	Axial force (Fa)	2000 N
						Gearbox weight	2,8 Kg



2 Stages													
Reduction ratio	9	12	15	16	20	25	28	35	40	50	70	100	Efficiency	93%
Maximum nominal output torque (Nm) *	65	70	75	75	75	75	75	75	75	75	65	55	Max backlash	10’
													Radiale force (Fr)	2600 N
Maximum torque in acceleration (Nm) *	100	110	120	120	120	120	120	120	120	120	100	90	Axial force (Fa)	2000 N
													Gearbox weight	3,7 Kg

* *Maximum output torque applicable to the gearbox, independently by the torque that may be generated bt the motor.*

Mechanical drawing



Ordering code

I	P	G	9	0	1	C	x	x	T	Q	1	4	P	0	5	M	x	x

Size	
90	Size 90

Stages	
1	1 Stage
2	2 Stages

Redution ratio	
3	I = 3
---	---
100	I = 100

Motor code	
Mxx	See motors list page 12

Combinable motors*	A	
	1 Stage	2 Stages
M86SH80-Txx	215	244
M86SH96-Txx	233	262
M86SH118-Txx	252	281
M86SH156-Txx	291	320

** Torque curves at page 10*

IPG120

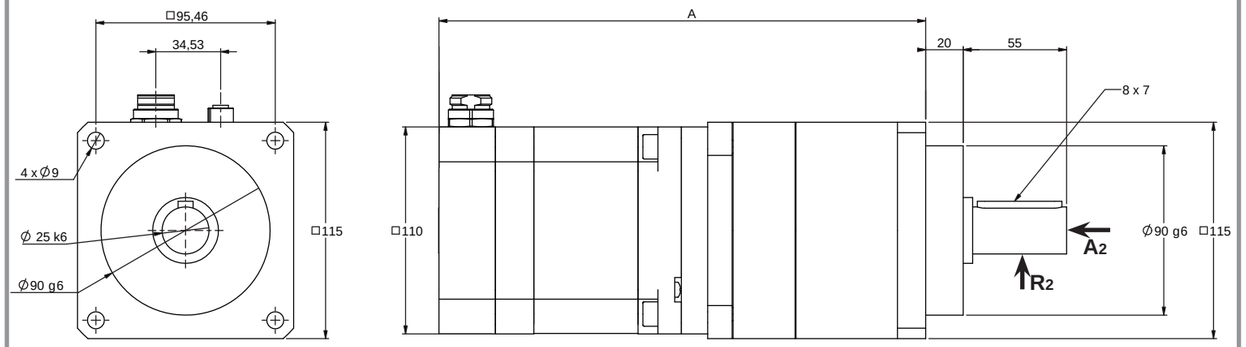
Technical specifications

1 Stage							
Reduction ratio	3	4	5	7	10	Efficiency	96%
Maximum nominal output torque (Nm) *	120	150	180	150	100	Max backlash	8’
						Radiale force (Fr)	4500 N
Maximum torque in acceleration (Nm) *	190	240	290	220	180	Axial force (Fa)	4000 N
						Gearbox weight	7,5 Kg

2 Stages													
Reduction ratio	9	12	15	16	20	25	28	35	40	50	70	100	Efficiency	93%
Maximum nominal output torque (Nm) *	150	180	220	220	220	220	220	220	220	220	170	110	Max backlash	10’
													Radiale force (Fr)	4500 N
Maximum torque in acceleration (Nm) *	240	290	350	350	350	350	350	350	350	350	270	200	Axial force (Fa)	4000 N
													Gearbox weight	8,0 Kg

* *Maximum output torque applicable to the gearbox, independently by the torque that may be generated bt the motor.*

Mechanical drawing



Ordering code

I	P	G	1	2	0	1	C	x	x	T	Q	1	9	P	0	1	M	x	x

Size	
120	Size 120

Stages	
1	1 Stage
2	2 Stages

Redution ratio	
3	I = 3
---	---
100	I = 100

Motor code	
Mxx	See motors list page 13

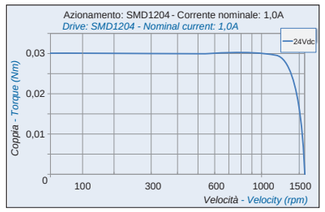
Combinable motors*	A	
	1 Stage	2 Stages
M110SH99-Txx	259	292
M110SH150-Txx	310	343
M110SH201-Txx	361	394

** Torque curves at page 10*

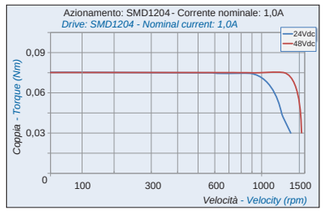
Motors table

NEMA 11

M28SH32-Tx	Motor code	Phase current	Holding torque	Encoder	Enc. ppr	Weight
M28SH32-TO1000L05C	M221	1,0 A	0,07 Nm	Line-driver	1000	220 g

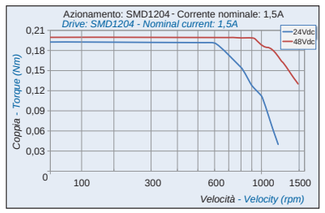


M28SH51-Tx	Motor code	Phase current	Holding torque	Encoder	Enc. ppr	Weight
M28SH51-TO1000L05C	M224	1,0 A	0,14 Nm	Line-driver	1000	305 g

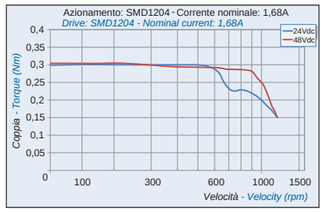


NEMA 17

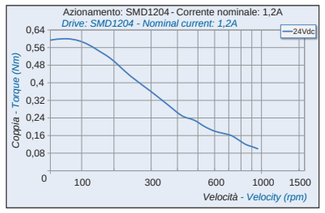
M42SH33-Tx	Motor code	Phase current	Holding torque	Encoder	Enc. ppr	Weight
M42SH33-T-C	M117	1,5 A	0,23 Nm	-	-	270 g
M42SH33-TO0512P24C	M140	1,5 A	0,23 Nm	Push-pull	512	280 g
M42SH33-TO0512L05C	M130	1,5 A	0,23 Nm	Line-driver	512	280 g



M42SH47-Tx	Motor code	Phase current	Holding torque	Encoder	Enc. ppr	Weight
M42SH47-T-C	M111	1,68 A	0,44 Nm	-	-	360 g
M42SH47-TO0512P24C	M141	1,68 A	0,44 Nm	Push-pull	512	370 g
M42SH47-TO0512L05C	M131	1,68 A	0,44 Nm	Line-driver	512	370 g



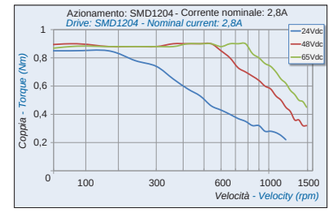
M42SH60-Tx	Motor code	Phase current	Holding torque	Encoder	Enc. ppr	Weight
M42SH60-T-C	M112	1,2 A	0,8 Nm	-	-	540 g
M42SH60-TO0512P24C	M142	1,2 A	0,8 Nm	Push-pull	512	550 g
M42SH60-TO0512L05C	M132	1,2 A	0,8 Nm	Line-driver	512	550 g



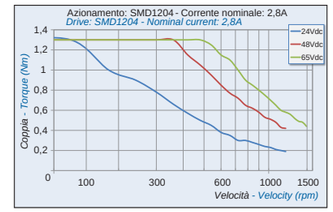
The torque curves contained in this document are made with AEP torque transducer mod. MRT250NM

NEMA 23

M57SH56-Tx	Motor code	Phase current	Holding torque	Encoder	Enc. ppr	Weight
M57SH56-T-C	M79	2,8 A	1,26 Nm	-	-	0,7 Kg
M57SH56-TO0512P24C	M98	2,8 A	1,26 Nm	Push-pull	512	0,7 Kg
M57SH56-TO0512L05C	M99	2,8 A	1,26 Nm	Line-driver	512	0,7 Kg
M57SH56-TM1611S05C	M506	2,8 A	1,26 Nm	Multit.Abs.	512	0,7 Kg

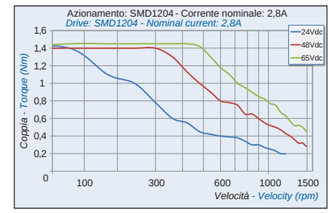


M57SH76-Tx	Motor code	Phase current	Holding torque	Encoder	Enc. ppr	Weight
M57SH76-T-C	M213	2,8 A	1,89 Nm	-	-	1,1 Kg
M57SH76-TO0512P24C	M214	2,8 A	1,89 Nm	Push-pull	512	1,1 Kg
M57SH76-TO0512L05C	M215	2,8 A	1,89 Nm	Line-driver	512	1,1 Kg
M57SH76-TM1611S05C	M507	2,8 A	1,89 Nm	Multit.Abs.	2048	1,1 Kg

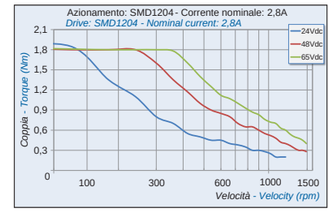


NEMA 24

M60SH65-Tx	Motor code	Phase current	Holding torque	Encoder	Enc. ppr	Weight
M60SH65-T-C	M02	2,8 A	2,1 Nm	-	-	1,2 Kg
M60SH65-TO0512P24C	M90	2,8 A	2,1 Nm	Push-pull	512	1,2 Kg
M60SH65-TO0512L05C	M81	2,8 A	2,1 Nm	Line-driver	512	1,2 Kg
M60SH65-TM1611S05C	M508	2,8 A	2,1 Nm	Multit.Abs.	2048	1,2 Kg



M60SH86-Tx	Motor code	Phase current	Holding torque	Encoder	Enc. ppr	Weight
M60SH86-T-C	M06	2,8 A	3,1 Nm	-	-	1,4 Kg
M60SH86-TO0512P24C	M91	2,8 A	3,1 Nm	Push-pull	512	1,4 Kg
M60SH86-TO0512L05C	M82	2,8 A	3,1 Nm	Line-driver	512	1,4 Kg
M60SH86-TM1611S05C	M509	2,8 A	3,1 Nm	Multit.Abs.	2048	1,4 Kg

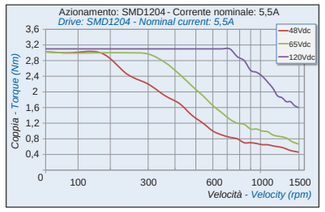


The torque curves contained in this document are made with AEP torque transducer mod. MRT250NM

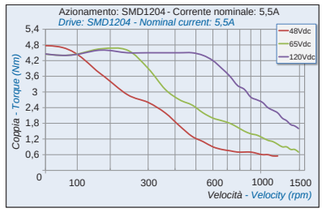
Motors table

NEMA 34 and NEMA 42

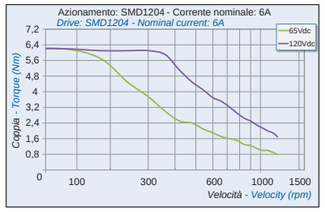
M86SH80-Tx	Motor code	Phase current	Holding torque	Encoder	Enc. ppr	Weight
M86SH80-T-C	M15	5,5 A	4,6 Nm	-	-	2,3 Kg
M86SH80-TO0512P24C	M92	5,5 A	4,6 Nm	Push-pull	512	2,3 Kg
M86SH80-TO0512L05C	M83	5,5 A	4,6 Nm	Line-driver	512	2,3 Kg
M86SH80-TM1611S05C	M510	5,5 A	4,6 Nm	Multit.Abs.	2048	2,3 Kg



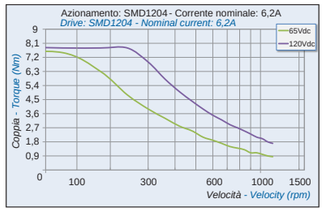
M86SH96-Tx	Motor code	Phase current	Holding torque	Encoder	Enc. ppr	Weight
M86SH96-T-C	M216	5,6 A	6,5 Nm	-	-	2,9 Kg
M86SH96-TO0512P24C	M217	5,6 A	6,5 Nm	Push-pull	512	2,9 Kg
M86SH96-TO0512L05C	M218	5,6 A	6,5 Nm	Line-driver	512	2,9 Kg
M86SH96-TM1611S05C	M511	5,5 A	6,5 Nm	Multit.Abs.	2048	2,9 Kg



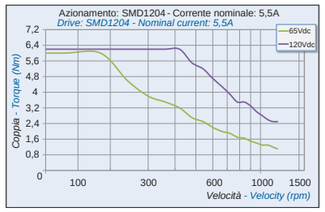
M86SH118-Tx	Motor code	Phase current	Holding torque	Encoder	Enc. ppr	Weight
M86SH118-T-C	M18	6,0 A	8,7 Nm	-	-	3,8 Kg
M86SH118-TO0512P24C	M93	6,0 A	8,7 Nm	Push-pull	512	3,8 Kg
M86SH118-TO0512L05C	M84	6,0 A	8,7 Nm	Line-driver	512	3,8 Kg
M86SH118-TM1611S05C	M512	6,0 A	8,7 Nm	Multit.Abs.	2048	3,8 Kg



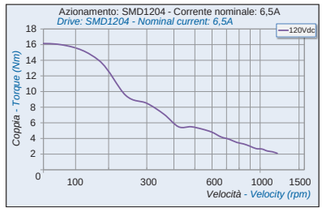
M86SH156-Tx	Motor code	Phase current	Holding torque	Encoder	Enc. ppr	Weight
M86SH156-T-C	M22	6,2 A	12,8 Nm	-	-	5,4 Kg
M86SH156-TO0512P24C	M94	6,2 A	12,8 Nm	Push-pull	512	5,4 Kg
M86SH156-TO0512L05C	M85	6,2 A	12,8 Nm	Line-driver	512	5,4 Kg
M86SH156-TM1611S05C	M513	6,2 A	12,8 Nm	Multit.Abs.	2048	5,4 Kg



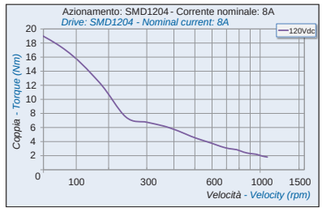
M110SH99-Tx	Motor code	Phase current	Holding torque	Encoder	Enc. ppr	Weight
M110SH99-T-C	M32	5,5 A	11,2 Nm	-	-	5 Kg
M110SH99-TO0512P24C	M95	5,5 A	11,2 Nm	Push-pull	512	5 Kg
M110SH99-TO0512L05C	M86	5,5 A	11,2 Nm	Line-driver	512	5 Kg



M110SH150-Tx	Motor code	Phase current	Holding torque	Encoder	Enc. ppr	Weight
M110SH150-T-C	M36	6,5 A	22 Nm	-	-	8,4 Kg
M110SH150-TO0512P24C	M96	6,5 A	22 Nm	Push-pull	512	8,4 Kg
M110SH150-TO0512L05C	M87	6,5 A	22 Nm	Line-driver	512	8,4 Kg



M110SH201-Tx	Motor code	Phase current	Holding torque	Encoder	Enc. ppr	Weight
M110SH201-T-C	M40	8,0 A	30 Nm	-	-	11,7 Kg
M110SH201-TO0512P24C	M97	8,0 A	30 Nm	Push-pull	512	11,7 Kg
M110SH201-TO0512L05C	M88	8,0 A	30 Nm	Line-driver	512	11,7 Kg



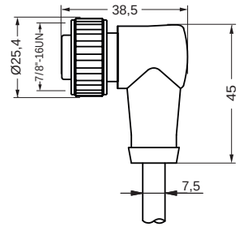
The torque curves contained in this document are made with AEP torque transducer mod. MRT250NM

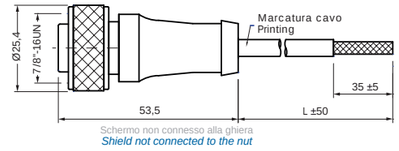
Dynamic laying cables

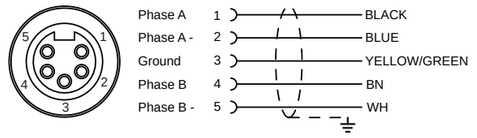
CONV05Fxx78CxxSU100

Cavo motore preassemblato
7/8" 5 vie femmina

7/8" 5 ways female preassembled motor cable



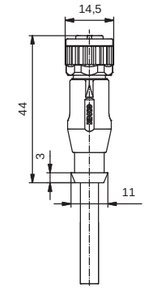


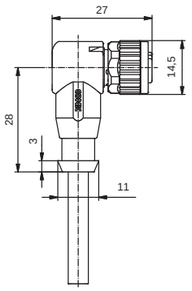


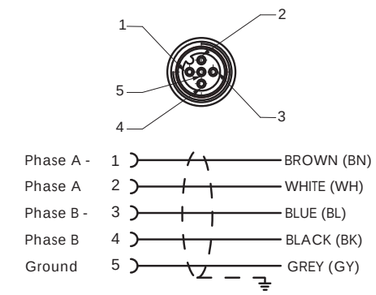
CONV05FxxM12CxxSU034

Cavo motore preassemblato
M12 5 vie femmina

M12 5 ways female preassembled motor cable





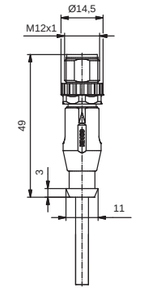


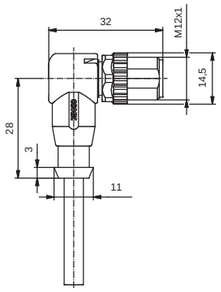
CONV05MxxM12CxxSU025

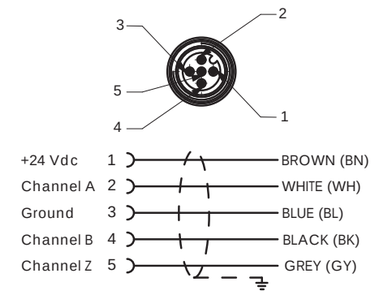
Cavo encoder PUSH PULL
preassemblato M12 5 vie maschio

M12 5 ways male preassembled PUSH-PULL encoder cable

ENCODER PUSH-PULL





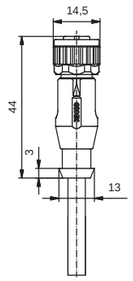


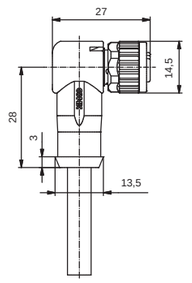
CONV08FxxM12CxxSU025

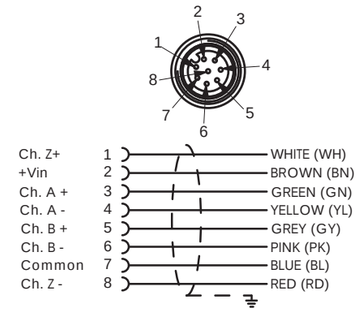
Cavo encoder LINE-DRIVER
preassemblato M12 8 vie femmina

M12 8 ways female preassembled LINE-DRIVER encoder cable

ENCODER LINE-DRIVER





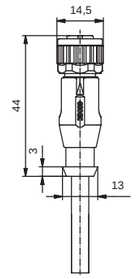


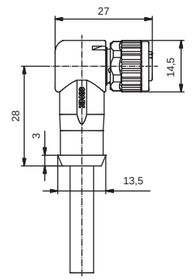
CONV08FxxM12CxxSU025

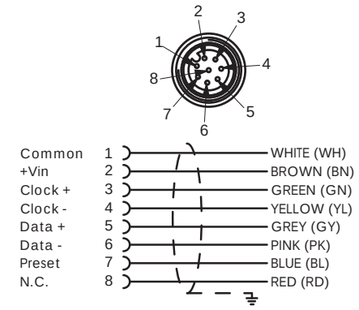
Cavo encoder ASSOLUTO SSI
preassemblato M12 8 vie femmina

M12 8 ways female preassembled ABSOLUTE SSI encoder cable

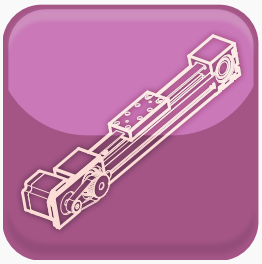
ABSOLUTE SSI ENCODER





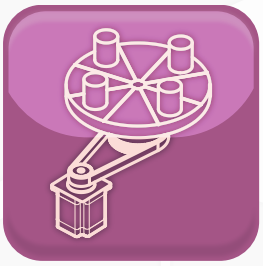


Esempi applicativi



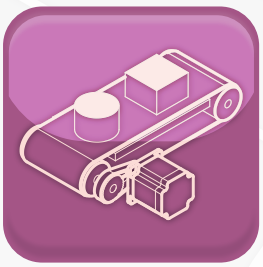
Linear actuators

- *Ball-screw linear axes*
- *Belt linear axes*
- *ISO electric cylinders*
- *Pick and Place*



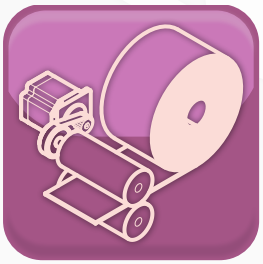
Rotary actuators

- *Self-supporting programmable rotary tables*
- *Format changeover*
- *Parts orientation*



Transport systems

- *Variable pitch conveyors*
- *Controlled speed roller tables*
- *Reduced backlash motorgearboxes*



Unwinding systems

- *Label applicators*
- *Variable or constant pitch unwinding machines*
- *Sheeter machines*

AEC s.r.l.
Via Zambon, 33/A • 36051 Creazzo (VI) • Tel. +39 0444 370088
info@aec-smd.it • www.aec-smd.it