

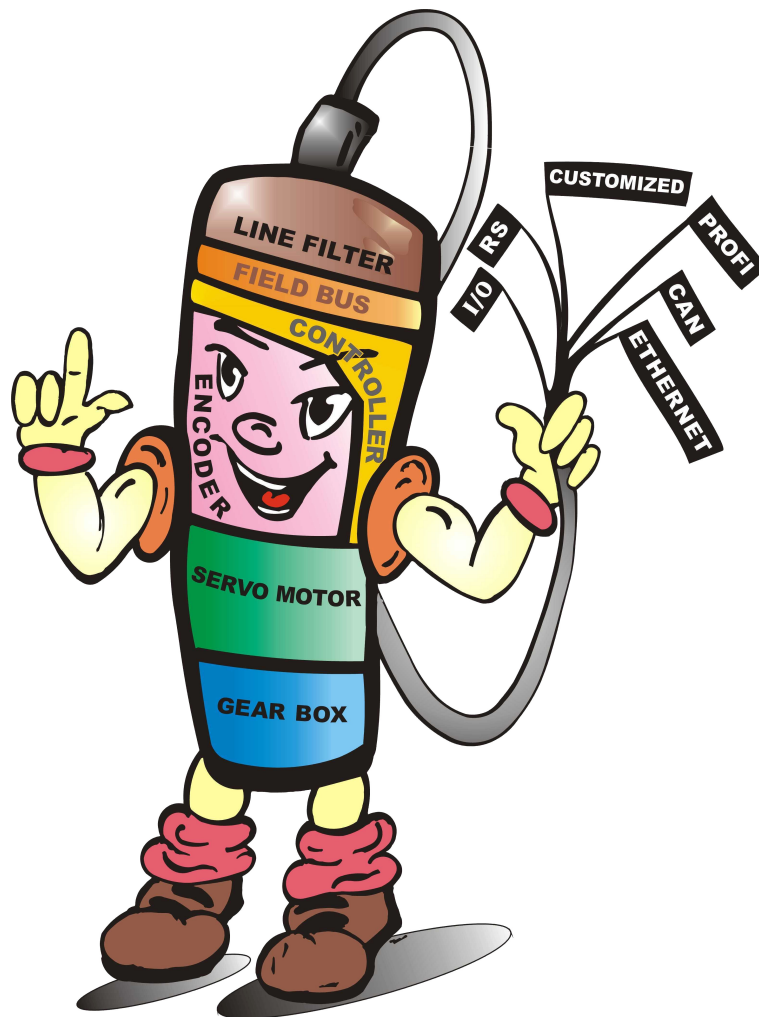
SPAT[®]

Motion Controls Electric Motors and Drives

CANopen[®]

PROFI[®]
PROCESS FIELD BUS
BUS

EtherCAT[®]



The company was founded in 1990, originally as an engineering enterprise for design and development of electromechanical and electronic drive solutions.

Comprehensive knowledge of engineers with many years of practical experiences, now continue the tradition of engineering and production of precision electric motors and drives at the heart of Saxony. The company's laboratory and production facilities offer ideal conditions to fulfil almost every customer's requirement.

The emphasis of product development during recent years brought forth our **SPATY** compact drive, a decentralized automation drive system, based on a platform concept. It consists of components, that are providing the base for the availability of a vast variety of both, standard and customized drive solutions. In particular there are:

- DSP- µController
- True- absolute Multiturn Encoder
- Brushless- or conventional DC- Motor
- Planetary, Worm-, Spur- or Planar Gears
- RS485, CANopen, Profibus DP or EtherCAT Interfaces

In addition, the company offers a wide range of proven and traditional drive solutions:

- DC drives with feedback systems and synchronising controls
- Customised positioning drives with integrated controllers and conventional analogue feedback systems
- Power stages for DC motors

Our team is a combination of very experienced and dedicated, flexible young people. Commitment to comply with customers' wishes regarding assortment and quality goes without mentioning for all our representations at any time.

Our comprehensive offers include

- on-site servicing to analyse the most effective way before proposing a solution and commissioning all new equipment's up to complete project management
- design and development of customised solutions including mechanical and electronic assemblies, feedback systems and controls
- reliable after sales service

References are sophisticated applications for polygraphic plants, medical equipment and various processing machines.

Further Investments into modern testing facilities for production and latest laboratory equipment shall provide adequate preconditions to serve all customers' needs.

We shall find solutions for most of your driving problems. Please ask for details by fax, e-mail or phone.

We are available for technical presentations and discussions at any time.

Das Unternehmen wurde 1990 als Ingenieurbetrieb zur Entwicklung von antriebs- und steuerungstechnischen Systemlösungen gegründet. Reichhaltige Erfahrungen von Fachleuten mit langjähriger Berufserfahrung setzen die Tradition des Präzisionsmotorenbaus im Herzen Sachsens fort. Firmeneigene Labors und Fertigungsstätten bieten ideale Rahmenbedingungen für die Realisierung nahezu aller Kundenwünsche.

Ein Schwerpunkt der Entwicklung neuer Produkte war in den letzten Jahren das Antriebssystem der **SPATY** Kompaktantriebe. Dieses Plattform basierte dezentralisierte Antriebskonzept für allgemeine Automatisierungslösungen besteht aus Komponenten, die die Basis für die Verfügbarkeit einer breiten Palette von standardisierten und spezifischen Lösungen bietet. Das sind im einzelnen:

- DSP- µController Steuerung
- Echt-absolutes Multiturn Encodersystem
- BLDC oder konventionelle DC-Motoren
- Planeten-, Schnecken-, Platinen- oder Planrad-Getriebe
- RS485, CANopen, Profibus DP oder EtherCAT Bussystem

Darüber hinaus bietet das Unternehmen eine Vielzahl von bewährten, traditionellen Antriebslösungen:

- DC-Antriebe mit Istwertgeber und Gleichlaufsteuerung
- Kundenspezifische Stellantriebe mit integrierten Steuerungen und konventionellen analogen Gebersystemen
- Endstufen für DC-Motoren

Die Mannschaft besteht aus einer Mischung erfahrener und engagierter, flexibler junger Leute. Einsatzbereitschaft zur Erfüllung der Kundenwünsche bezüglich Sortiment und Qualität besteht bei jedem Mitarbeiter rund um die Uhr. Vor-Ort-Arbeit beim Kunden zur Analyse der günstigsten Problemlösungen ist für uns ebenso selbstverständlich wie Kundendienstesätze zur Inbetriebnahme von Maschinen und Anlagen.

Das Leistungsangebot beinhaltet:

- Erarbeitung der Projekte zusammen mit den Anwenderfirmen bis hin zum kompletten Projekt-Management
- Entwicklung und Fertigung kundenspezifischer Lösungen für mechanische und elektronische Baugruppen, Meßsysteme und Steuerungen
- Inbetriebnahme der Anlagen nach der Lieferung des Gesamtpaketes
- Gewährleistung eines zuverlässigen Kundendienstes und Termintreue

Referenzen sind anspruchsvolle Anwendungen in der Medizin- und Gerätetechnik, im polygraphischen Maschinenbau und einer Vielzahl von Verarbeitungsmaschinen.

Neue Investitionen bezüglich moderner Prüfeinrichtungen für die Produktion und neueste Laborausrüstungen schaffen angemessene Voraussetzungen um alle Kundenwünsche zu erfüllen.

Wir finden Lösungen für die meisten Antriebsprobleme. Bitte schildern Sie uns ihre Aufgabenstellung. Gern stehen wir Ihnen zur Lösung Ihrer Antriebsprobleme, zu technischen Präsentationen oder Fachgesprächen zur Verfügung.

Motion Controls

Electric Motors and Drives

Brushless DC Motors

M40	4
M62	5
M90	6

Planetary gears

PG42	7
PG52	8
PG62	9
PG81	10

Worm gears

WG40	11
WG62	12
WG70	13

Controllers and Drives – **SPATY**

SPATY	14
SPATY DETACHED / SPATY CODER	16
Controllers and Drives – Linear Actuator	18
Holding brakes / Accessories	19

Selection guide

	W	M40.25/24	M40.40/24	M62.45/24	M62.90/24	M62.150/24	M62.150/48	M90.150/24	M90.150/48	M90.300/48	M90.450/48
	Nm	0,05	0,08	0,08	0,17	0,29	0,3	0,29	0,3	0,61	0,86
	Page										
		<i>Motors without electronics</i>									
Hall sensors											
		<i>Gears</i>									
Planetary gear PG42											
Planetary gear PG52											
Planetary gear PG62											
Planetary gear PG81											
Worm gear WG42											
Worm gear WG62											
Worm gear WG70											
		<i>Controllers</i>									
SPATY											
SPATY DETACHED											
		<i>Holding brakes</i>									
Intorq BFK457-01											
Intorq BFK457-02											
Intorq BFK457-03											
Intorq BFK457-04											
Intorq BFK457-05											

M40

25 W...40 W

Versions with:

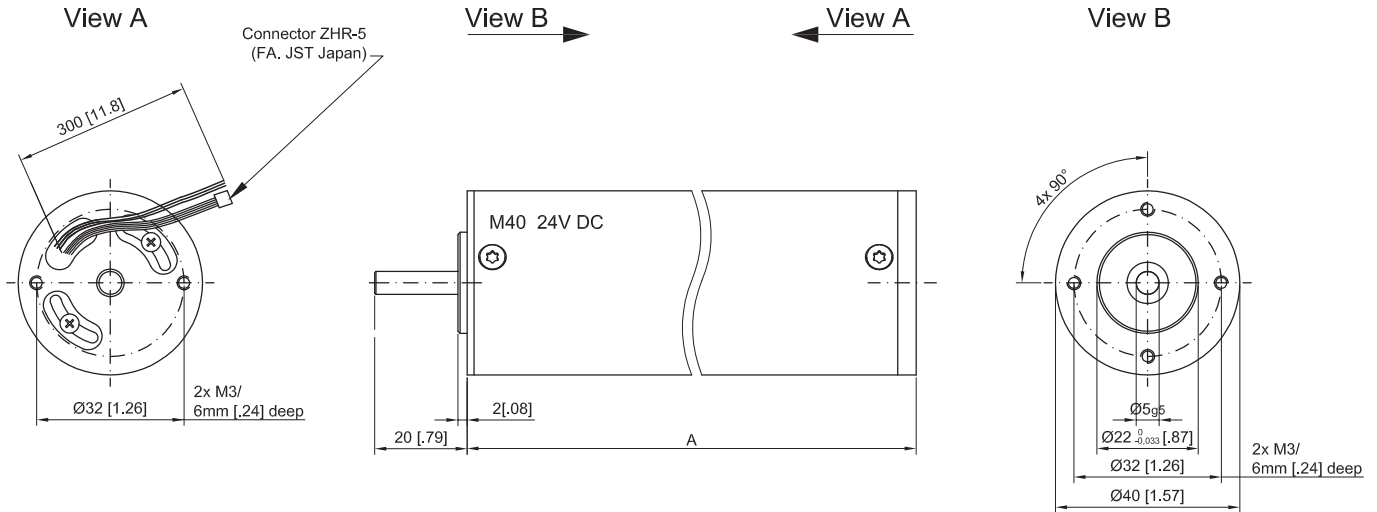
Gearbox PG42, WG40..... Page 7, 11

Controller **SPATY**..... Page 14

Controller **SPATY DETACHED**..... Page 16

Incremental encoder and brake on request

Scale drawing



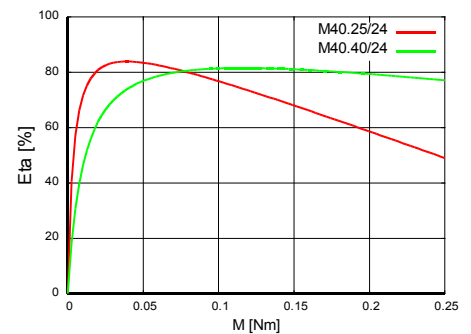
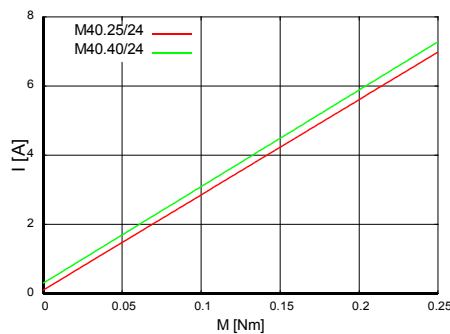
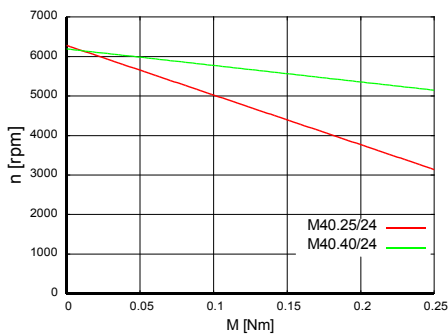
Data

Pin Assignment

Characteristics		M40.25/24	M40.40/24
Rated Voltage	V	24	24
Rated Speed	min ⁻¹	5680	5870
Rated torque	Nm	0,05	0,08
Rated current	A	1,5	2,4
Rated power	W	30	49
Length A	mm [inch]	85 [3.35]	111 [4.37]

Signal	Colour	Signal	Colour
Phase A	red	H1	blue
Phase B	blue	H2	white
Phase C	yellow	H3	gray
		GND	black
		+5V DC	brown

Characteristic curves



M62

45 W...150 W

Versions with:

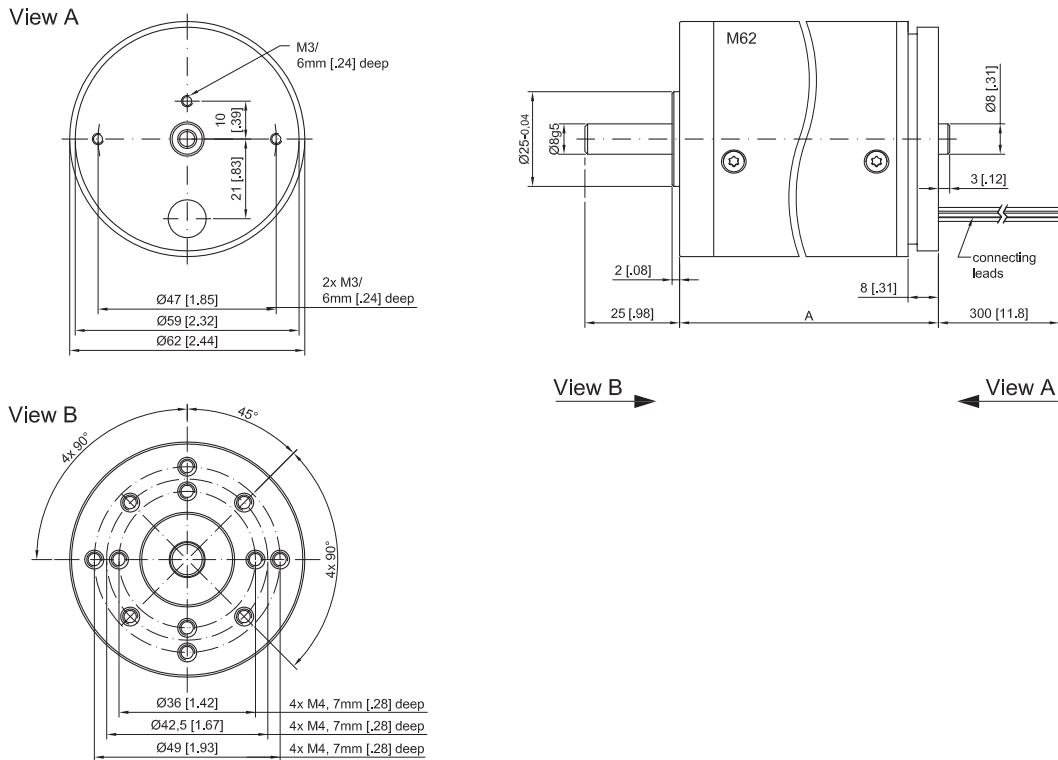
Gearbox PG52, PG62, PG81, WG62, WG70. Page 8, 9, 10, 12, 13

Controller **SPATY**..... Page 14

Controller **SPATY DETACHED**..... Page 16

Incremental encoder and brake on request

Scale drawing



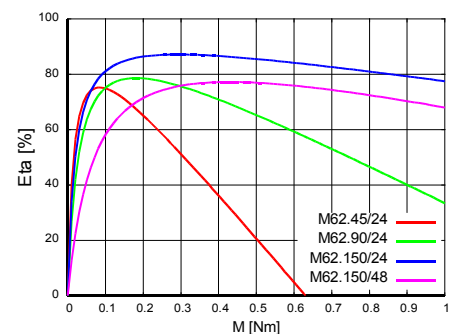
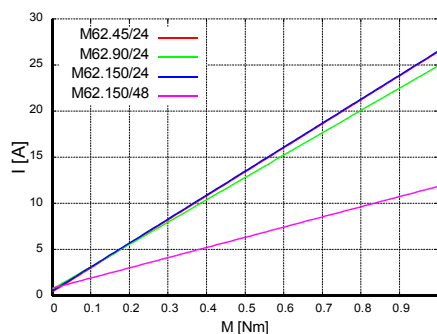
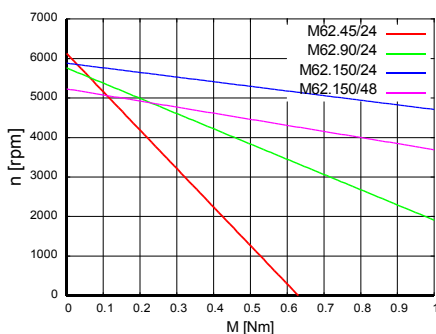
Data

Characteristics		M62.45/24	M62.90/24	M62.150/24	M62.150/48
Rated Voltage	V	24	24	24	48
Rated Speed	min ⁻¹	5350	5110	5540	4770
Rated torque	Nm	0,08	0,17	0,29	0,3
Rated current	A	2,5	4,8	7,9	4,1
Rated power	W	45	91	168	150
Length A	mm [inch]	75 [2.95]	97 [3.8]	115 [4.53]	

Pin Assignment

Signal	Colour	Signal	Colour
Phase A	red	H1	blue
Phase B	blue	H2	white
Phase C	yellow	H3	gray
		GND	black
		+5V DC	brown

Characteristic curves



M90

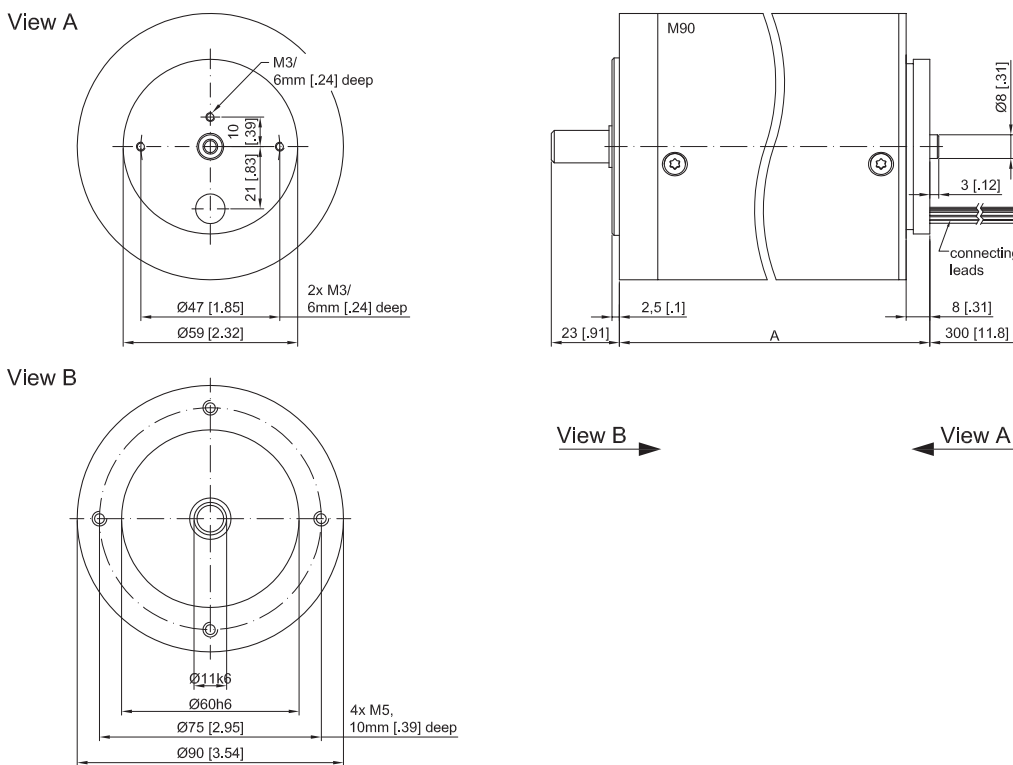
150 W...450 W

Versions with:

- Gearbox PG81..... Page 10
- Controller **SPATY**..... Page 14
- Controller **SPATY DETACHED**..... Page 16

Incremental encoder and brake on request

Scale drawing



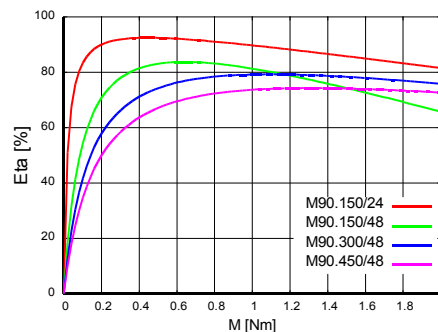
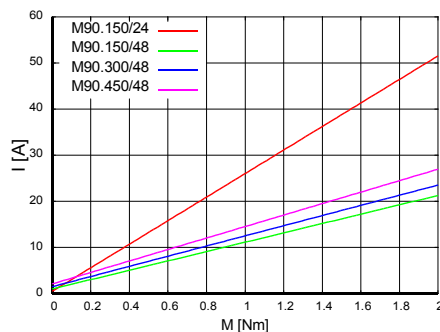
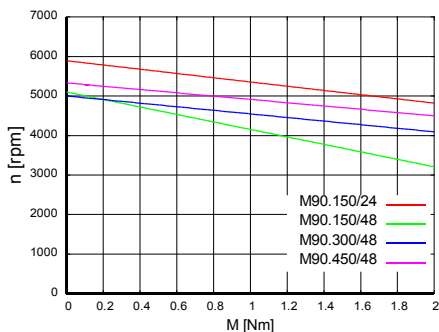
Data

Characteristics		M90.150/24	M90.150/48	M90.300/48	M90.450/48
Rated Voltage	V	24	48	48	48
Rated Speed	min ⁻¹	5740	4820	4720	4970
Rated torque	Nm	0,29	0,3	0,61	0,86
Rated current	A	7,8	4	8,2	12,9
Rated power	W	174	151	302	448
Length A	mm [inch]	105 [4.13]		134 [5.28]	160 [6.30]

Pin Assignment

Signal	Colour	Signal	Colour
Phase A	red	H1	blue
Phase B	blue	H2	white
Phase C	yellow	H3	gray
		GND	black
		+5V DC	brown

Characteristic curves

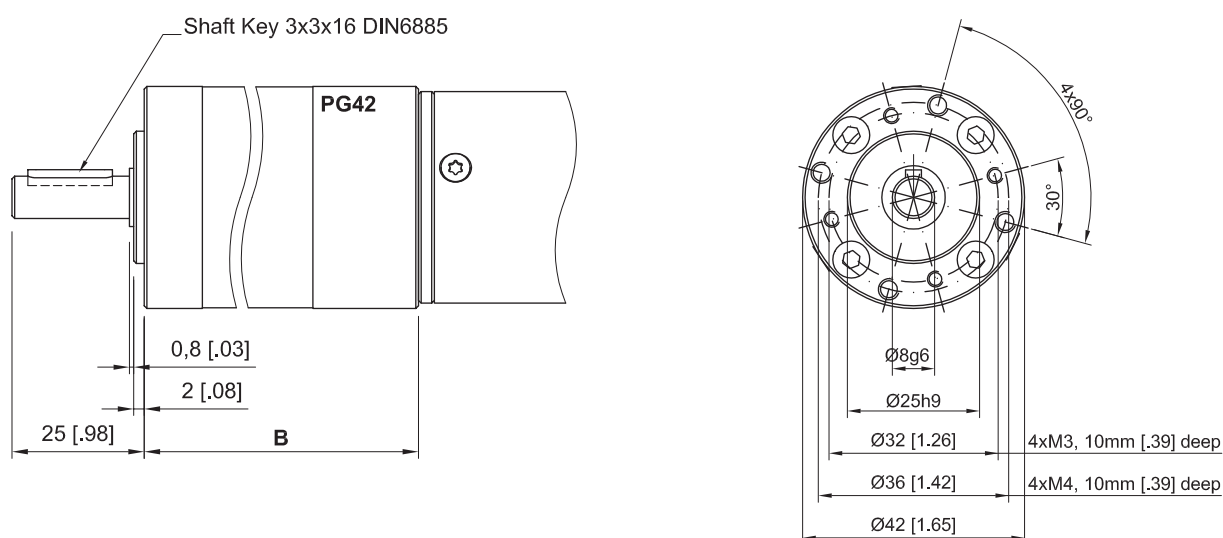


PG42 – Planetary gear

0,2 Nm...15 Nm

Page 7

Scale drawing



Data

Parameter	1-stage	2-stage	3-stage
Continuous torque	3 Nm	7.5 Nm	15 Nm
Efficiency	0.8	0.75	0.7
Load radial / axial	160 N / 50 N	230 N / 80 N	300 N / 110 N
Length B	56 mm [2.20]	70 mm [2.76]	84 mm [3.31]
Weight	0.4 kg	0.5 kg	0.6 kg

Motor gearbox combination

Gear	Stages	M40.25			M40.40		
		M [Nm]	n [min ⁻¹]	l [mm]	M [Nm]	n [min ⁻¹]	l [mm]
PG40.4	1	0.1	1535	141	0.2	1586	167
PG40.5	1	0.2	1097		0.3	1133	
PG40.7	1	0.3	841		0.4	870	
PG40.9	1	0.3	658		0.6	680	
PG40.14	2	0.5	414	155	0.8	428	181
PG40.19	2	0.7	296		1.2	306	
PG40.25	2	0.9	227		1.5	235	
PG40.29	2	1.1	196		1.7	203	
PG40.35	2	1.3	162		2.1	168	
PG40.46	2	1.7	125		2.7	129	
PG40.68	3	2.4	83	169	3.8	86	195
PG40.93	3	3.2	61		5.2	63	
PG40.115	3	4	49		6.4	51	
PG40.139	3	5	41		8	42	
PG40.169	3	6	34		9.5	35	
PG40.195	3	7	29		11	30	
PG40.236	3	8	24		13	25	
PG40.308	3	11	18		15*	19	
PG40.393	3	14	14		15*	15	

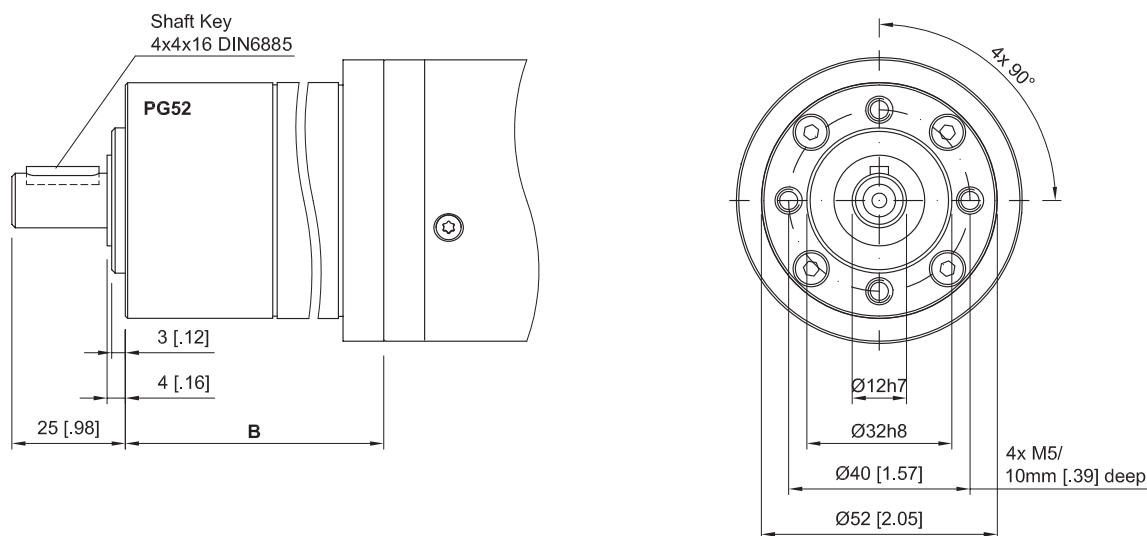
*limited by gearbox

PG52 – Planetary gear

0,3 Nm...25 Nm

Page 8

Scale drawing



Data

Parameter	1-stage	2-stage	3-stage
Continuous torque	4 Nm	12 Nm	25 Nm
Efficiency	0.8	0.75	0.7
Load radial / axial	200 N / 60 N	320 N / 100 N	450N / 150 N
Length B	63 mm [2.48]	77 mm [3.03]	92 mm [3.62]
Weight	0.7 kg	0.9 kg	1.1 kg

Motor gearbox combination

Gear	Stages	M62.45			M62.90			M62.150		
		M [Nm]	n [min ⁻¹]	l [mm]	M [Nm]	n [min ⁻¹]	l [mm]	M [Nm]	n [min ⁻¹]	l [mm]
PG52.4	1	0.2	1351	138	0.5	1381	160	0.9	1208	178
PG52.5	1	0.3	965		0.7	986		1.2	863	
PG52.7	1	0.4	741		0.9	757		1.6	662	
PG52.9	1	0.6	579		1.2	592		2	518	
PG52.14	2	0.8	364	152	1.8	372	174	3	326	192
PG52.19	2	1.2	260		2.4	266		4.5	233	
PG52.25	2	1.5	200		3.2	204		5.5	179	
PG52.29	2	1.7	173		3.7	177		6.5	155	
PG52.35	2	2	143		4.5	146		8	128	
PG52.46	2	2.7	110		5.8	112		10	98	
PG52.68	3	3.8	73	167	8	75	189	14	66	207
PG52.93	3	5.2	54		11	55		19	48	
PG52.115	3	6.4	43		14	44		24	39	
PG52.139	3	7.8	36		17	37		25*	32	
PG52.169	3	9.5	30		20	30		25*	26	
PG52.195	3	11	26		23	26		25*	23	
PG52.236	3	13	21		25*	22		25*	19	
PG52.308	3	17	16		25*	17		25*	15	
PG52.393	3	22	13		25*	13		25*	11	

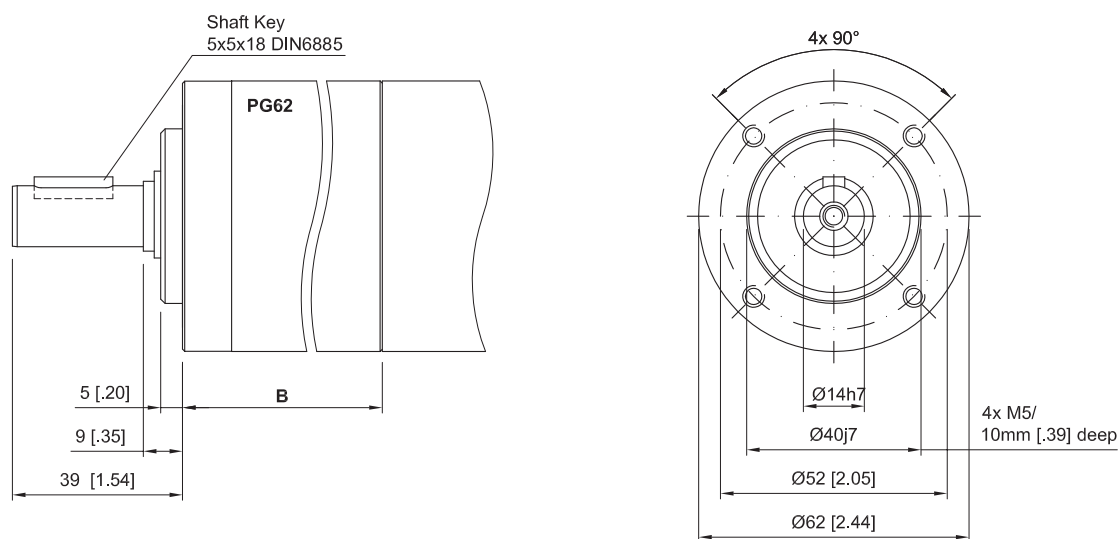
*limited by gearbox

PG62 – Planetary gear

0,6 Nm...50 Nm

Page 9

Scale drawing



Data

Parameter	1-stage	2-stage	3-stage
Continuous torque	8 Nm	25 Nm	50 Nm
Efficiency	0.8	0.75	0.7
Load radial / axial	240 N / 70 N	360 N / 100 N	520 N / 150 N
Length B	67 mm [2.64]	84 mm [3.31]	101 mm [3.98]
Weight	0.8 kg	1.2 kg	1.6 kg

Motor gearbox combination

Gear	Stages	M62.90			M62.150		
		M [Nm]	n [min ⁻¹]	l [mm]	M [Nm]	n [min ⁻¹]	l [mm]
PG62.4	1	0.5	1381	164	0.9	1208	182
PG62.5	1	0.7	986		1.2	863	
PG62.7	1	0.9	757		1.6	662	
PG62.9	1	1.2	592		2	518	
PG62.14	2	1.8	372	181	3	326	199
PG62.19	2	2.4	266		4.3	233	
PG62.25	2	3.2	204		5.6	179	
PG62.29	2	3.7	177		6.5	155	
PG62.35	2	4.5	146		8	128	
PG62.46	2	5.8	112		10	98	
PG62.68	3	8	75	198	14	66	216
PG62.93	3	11	55		20	48	
PG62.115	3	14	44		24	39	
PG62.139	3	17	37		29	32	
PG62.169	3	20	30		36	26	
PG62.195	3	23	26		41	23	
PG62.236	3	28	22		50	19	
PG62.308	3	37	17		50*	15	
PG62.393	3	47	13		50*	11	

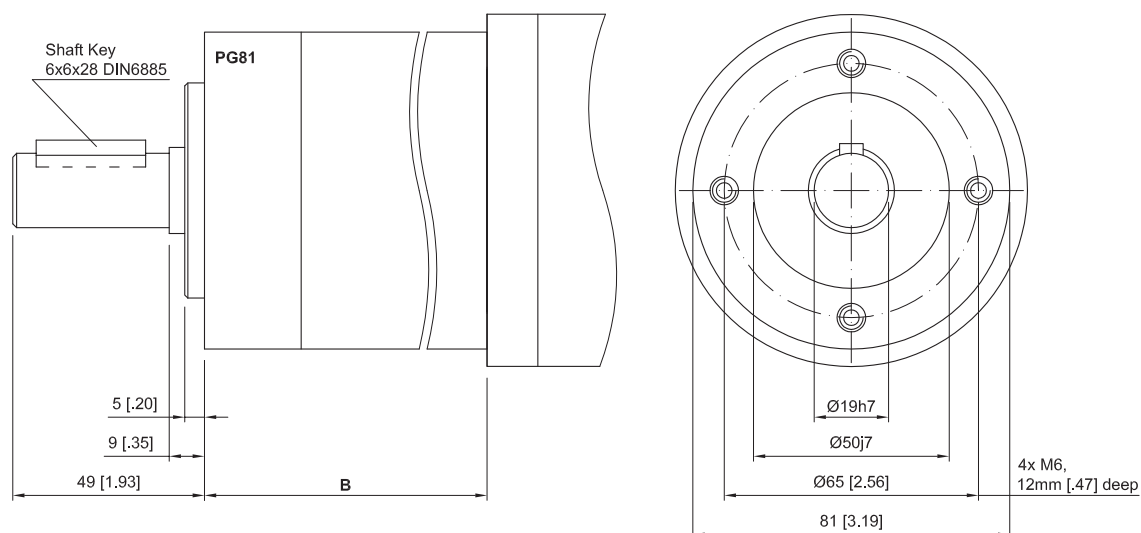
*limited by gearbox

PG81 – Planetary gear

0,6 Nm...120 Nm

Page 10

Scale drawing



Data

Parameter	1-stage	2-stage	3-stage
Continuous torque	20 Nm	60 Nm	120 Nm
Efficiency	0.8	0.75	0.7
Load radial / axial	400 N / 80 N	600 N / 120 N	1000 N / 200 N
Length B	73 mm [2.87]	95 mm [3.74]	117 mm [4.61]
Weight	0.8 kg	1.2 kg	1.6 kg

Motor gearbox combination

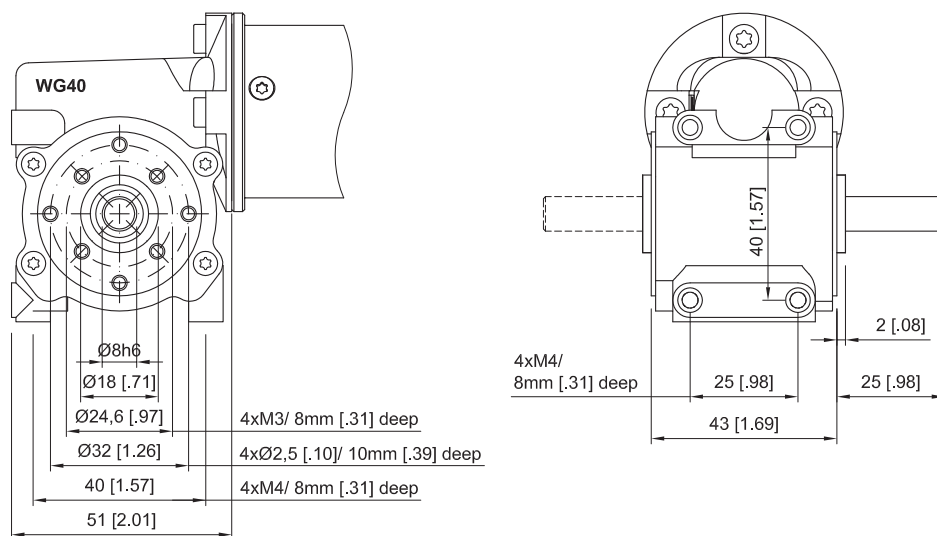
Gear	Stages	M62.150			M90.150			M90.300			M90.450		
		M [Nm]	n [min ⁻¹]	l [mm]	M [Nm]	n [min ⁻¹]	l [mm]	M [Nm]	n [min ⁻¹]	l [mm]	M [Nm]	n [min ⁻¹]	l [mm]
PG81.4	1	-	-	178	0.9	1303	207	1.8	1276	233	2.5	1343	
PG81.5	1	-	-		1.2	931		2.5	911		3.6	959	
PG81.7	1	-	-		1.6	714		3.3	699		4.6	736	
PG81.9	1	-	-		2	559		4	547		6	576	
PG81.14	2	-	-	200	3	351	229	6	344	255	12	362	
PG81.19	2	-	-		4.5	251		9	246		16	259	
PG81.25	2	-	-		5.5	193		11	189		19	199	
PG81.29	2	-	-		6.5	167		13	163		23	172	
PG81.35	2	-	-		8	138		16	135		29	142	
PG81.46	2	-	-		10	106		21	104		41	109	
PG81.68	3	-	-	232	14	71	251	29	69	277	56	73	
PG81.93	3	-	-		20	52		40	51		69	54	
PG81.115	3	-	-		24	42		49	41		84	43	
PG81.139	3	29	35		29	35		59	34		102	36	
PG81.169	3	35	29		36	29		72	28		118	29	
PG81.195	3	41	25		41	25		83	24		120	25	
PG81.236	3	50	20		50	20		100	20		120	21	
PG81.308	3	65	16		65	16		120	15		120	16	
PG81.393	3	83	12		83	12		120	12		120	13	

WG40 – Worm gear

0,2 Nm...1.3 Nm

Page 11

Scale drawing



Data

Parameter	Gear ratio						
	3	7	11	15	21	30	40
Continuous torque	2.6 Nm	4.3 Nm	4.1 Nm	3.7 Nm	4.1 Nm	4.3 Nm	4.7 Nm
Efficiency	0.82	0.76	0.68	0.6	0.52	0.45	0.4
Load radial / axial	40 N / 40 N						

Motor gearbox combination

Gear	M40.40		
	M [Nm]	n [min ⁻¹]	l [mm]
WG40.3	0.2	1200*	152
WG40.7	0.4	514*	
WG40.11	0.6	327*	
WG40.15	0.7	240*	
WG40.21	0.9	171*	
WG40.30	1	120*	
WG40.40	1.3	90*	

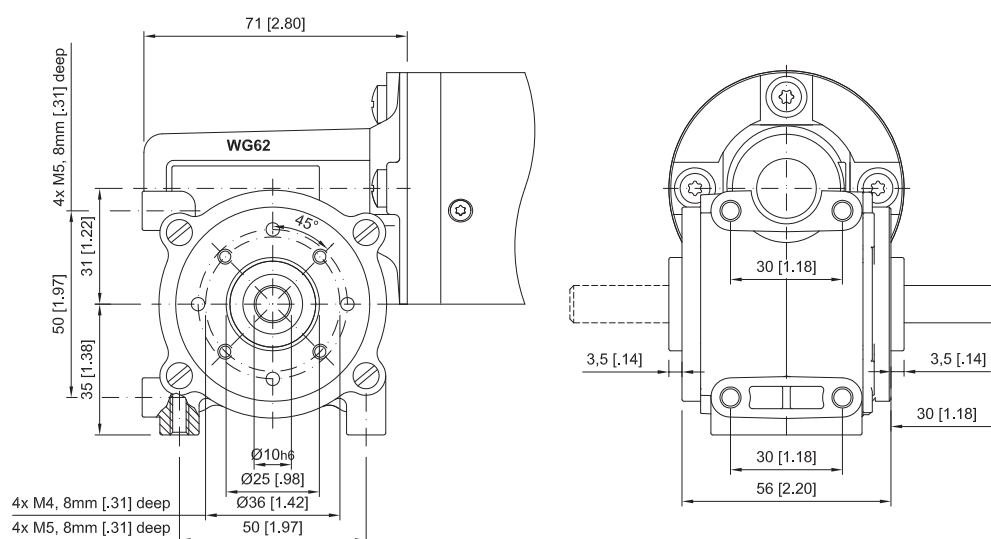
*limited by gearbox

WG62 – Worm gear

0,2 Nm...9 Nm

Page 12

Scale drawing



Data

Parameter	Gear ratio													
	3	5	7	10	12	15	18	20	24	30	38	50	55	75
Continuous torque	5.3 Nm	11 Nm	12 Nm	11 Nm	15 Nm	13 Nm	12 Nm	12 Nm	11 Nm	12 Nm	14 Nm	11 Nm	13 Nm	9 Nm
Efficiency	0.88	0.85	0.83	0.77	0.78	0.74	0.7	0.69	0.59	0.59	0.57	0.46	0.52	0.36
Load radial / axial	150 N / 100 N													

Motor gearbox combination

Gear	M62.150		
	M [Nm]	n [min ⁻¹]	l [mm]
WG62.3	0.6	1200*	186
WG62.5	1.2	720*	
WG62.7	1.7	514*	
WG62.10	2.2	360*	
WG62.12	2.7	300*	
WG62.15	3.2	240*	
WG62.18	3.6	200*	
WG62.20	4	180*	
WG62.24	4.1	150*	
WG62.30	5.1	120*	
WG62.38	6.28	95*	
WG62.50	6.7	72*	
WG62.55	8.3	65*	
WG62.75	7.8	48*	
WG62.100	9	36*	

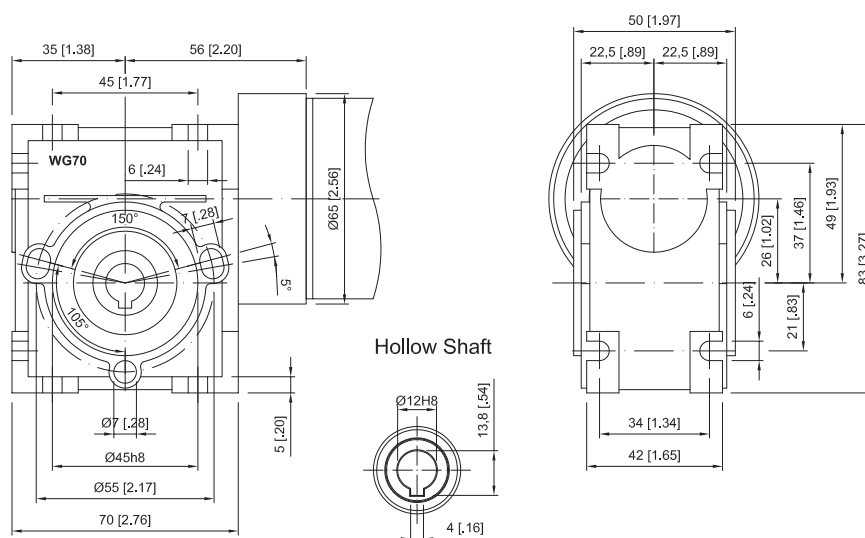
*limited by gearbox

WG70 – Worm gear

0,2 Nm...10 Nm

Page 13

Scale drawing



Data

Parameter	5	8	10	15	20	30	40	50	60
Continuous torque									
Efficiency	0.89	0.87	0.85	0.83	0.8	0.73	0.68	0.64	0.6
Load radial / axial	610 N /								

Motor gearbox combination

Gear	M62.90			M62.150		
	M [Nm]	n [min ⁻¹]	l [mm]	M [Nm]	n [min ⁻¹]	l [mm]
WG70.5	0.75	720	188	1.3	720	206
WG70.8	1.2	450		1.9	450	
WG70.10	1.5	360		2.5	360	
WG70.15	2	240		3.6	240	
WG70.20	2.7	180		4.6	180	
WG70.30	3.7	120		6.4	120	
WG70.40	4.6	90		7.9	90	
WG70.50	5.4	72		9.3	72	
WG70.60	6	60	10.4	60		

Controllers and Drives

SPATY

Page 14

Features

- Based on a uniformed platform concept SPATY offers a modular drive system with great flexibility for customized adoptions
- Compact designs feature directly mounted and integrated controllers
- Multiturn absolute encoder integrated
- 4-quadrant controller, field oriented control, sinusoidal commutation
- Wide speed range, varying from zero...120% rated speed
- Operation modes according IEC 61800-7-2, "Homing Mode", "Torque Profile", "Profile Velocity", "Profile Position"
- Pulse control mode via digital input
- CANopen, Profibus-DP, RS-485, EtherCAT
- Firmware Loader
- 7 digital I/O (Functions configurable)
- 1 differential analogue input (Function configurable)
- Operation of drive via fieldbus or I/O
- Commissioning tool "DriveControl"
- Variety of standard configurations
- Applicable as positioning and/or processing drive
- Wide range of applications for medical equipment, printing, packaging and general machine building


CANopen®

PROFI®
BUS
EtherCAT®

Data


Interfaces				
Supply voltage	Logic: 12 V ... 48 V, Power: 12 V ... 60 V			
Fieldbus	CANopen IEC 61800-7-2 optional galvanically isolated	RS-485 optional galvanically isolated	Profibus-DP	EtherCAT (CoE)
Addressing	Via fieldbus or address connector MemoCon		Via hex decode switch or address connector MemoCon	Via fieldbus
Digital I/O	7x (24 V / 150 mA)		5x (24 V / 150mA)	5x (24 V / 150 mA)
Analog differential input	1x (0 V...10 V / -10 V...10 V)		-	-
SSI	Optional SSI interface for external encoder as position feedback			
Electrical Data				
Max. power*	300 W			
Encoder				
Type	Singleturn / Multiturn			
Positioning accuracy	± 0,7°			
Resolution singleturn	max. 12 Bit (configurable)			
Number of turns	max. 16 Bit			
Protection				
Logic reverse voltage	yes			
Power reverse voltage	optional			
Temperature monitoring	Processor, PCB			
Voltage monitoring	Intermediate voltage			
Current monitoring	I ² t, Phase current limiting			
Over voltage protection	internal			
Safe Torque Off (STO)	yes			


* Max. power depending on motor type and heat dissipation


Controllers and Drives

SPATV

Housing design and connectors

CANopen RS-485	X4	X3	X2	X1	Example
Option A	-	-	M12 male, 5-pin, A-Coding, (Bus input)	M16 male, 12-pin, IEC 60130-9 (Power supply, I/O)	
Option B	MemoCon				
Option C	-	M12 female, 5-pin, A-Coding, (Bus output)			
Option D	MemoCon				
Option E	-	M12 female, 8-pin, (SSI input)			
Option F	MemoCon				

Profibus	X4	X3	X2	X1	Example
Option A	-	M12 male, 5-pin, B-Coding, (Bus output)	M12 female, 5-pin, B-Coding, (Bus input)	M16 male, 12-pin, IEC 60130-9 (Power supply, I/O)	
Option B	MemoCon				
Option C	Address switch				
Option D	-	M12 female, 8-pin, B-Coding, (SSI input)			
Option E	MemoCon				
Option F	Address switch				

EtherCAT	X4	X3	X2	X1	Example
Option A	-	M12 female, 5-pin, D-Coding, (Bus output)	M12 female, 5-pin, D-Coding, (Bus input)	M16 male, 12-pin, IEC 60130-9, (Power supply, I/O)	

Examples for Drive Connection

CANopen – Option F: Power supply and I/O input; Bus input; SSI input; Address connector **MemoCon**

Profibus – Option C: Power supply and I/O input; Bus input; Bus output; Address memory switch

EtherCAT – Option A: Power supply and I/O input; Bus input; Bus output

Different versions of Drive Connection may be selected acc.to the options shown.

Controllers and Drives

SPATY DETACHED, SPATY CODER

Features

A lot of applications require more power than a compact drive can handle, due to a limited surface area for heat dissipation.

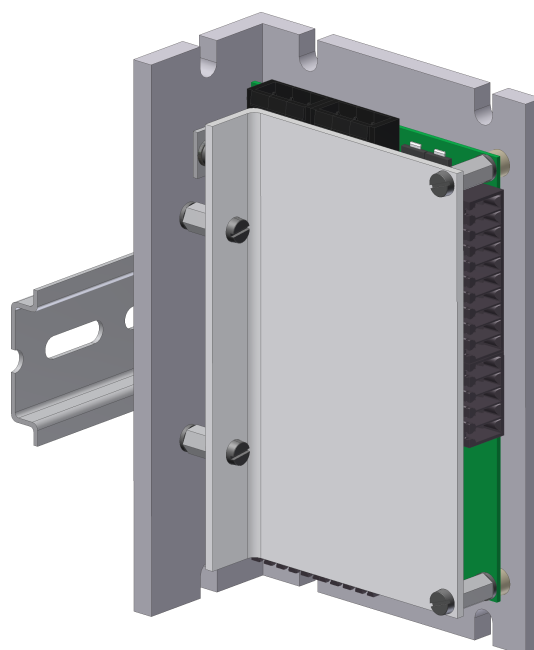
Based on the proven **SPATY** platform design this detached version is intended for control cabinet assembling or direct mounting to machine frames. The open structure of heat disposal elements is suitable for alternative mounting, either the combination with heat sinks or direct mounting to machine chassis. This way a very cost effective system design can be achieved.

The **SPATY** platform concept provides the base for all software and the extended hardware design facilitates all connections in a very convenient and unmistakable way.

The nominal Power of the new **SPATY DETACHED** controller design is 600 Watts at S1 duty.

At ambient temperatures of up to 60°C, cont. power still exceeds 300 W. In order to facilitate the same technical characteristics of field oriented motor control and true-absolute multiturm encoder as the standard **SPATY** drives achieve, the unique **SPATY CODER** interface provides the necessary link.

For less demanding applications, when simple motor designs are employed, hall effect signals can be used for block commutation duty.



Electronics

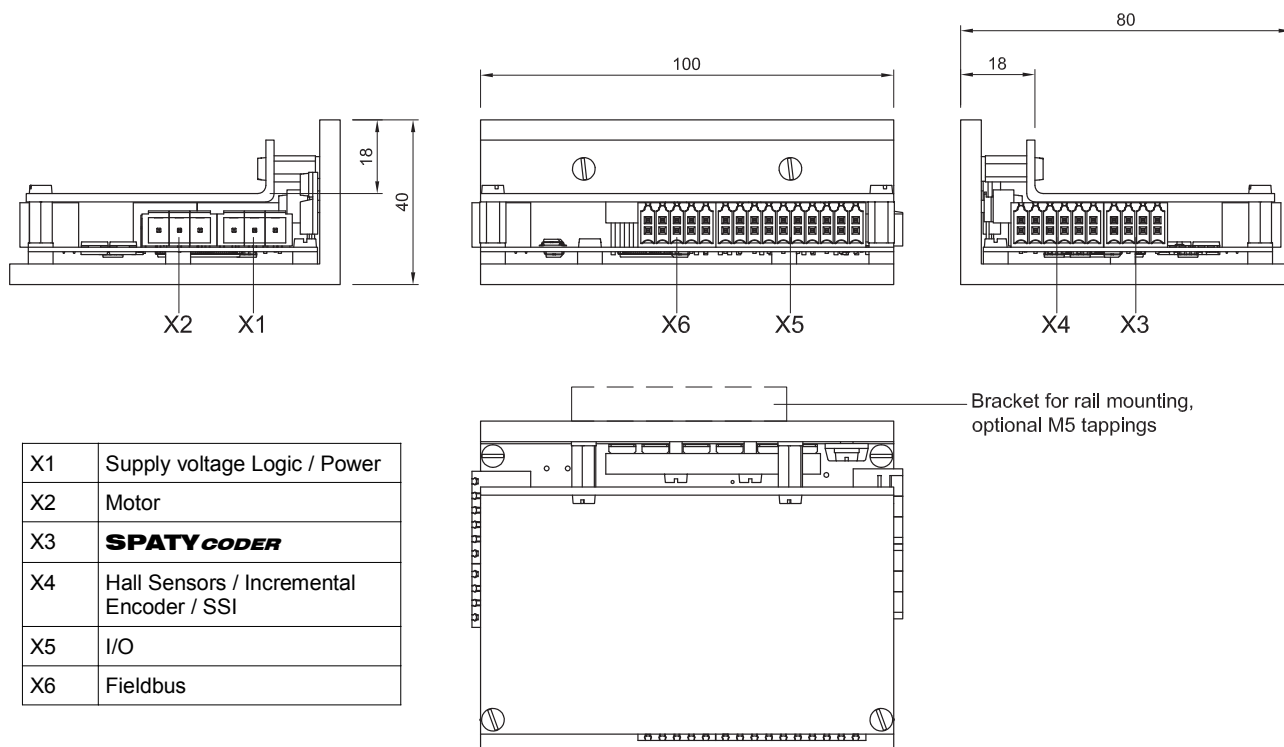
Electrical Data	
Supply voltage	Logic: 12 V ... 48 V, Power: 12 V ... 60 V
Rated Current	25 A @ 24 V / 12.5 A @ 48 V / 10 A @ 60 V
Interfaces	
Fieldbus	CANopen / Profibus-DP / EtherCAT / RS-485 / USB Addressing via two Hex-decode switches, CANopen/RS-485 optional galvanically isolated
Digital inputs	8x (24 V), Function configurable
Digital outputs	4x (24 V / 150 mA), Function configurable
Analog differential input	1x (0 V...10 V / -10 V...10 V)
Motor	Supports brushless and brushed DC motors
Feedback	
Conventional	Hallsensors (H1 H1, H2 H2, H3 H3), Incremental Encoder (A A, B B, I I), SSI (C C, D D)
Additional	SPATY CODER interface to provide field oriented motor control and true-absolute multiturm encoder function
Protection	
Logic reverse voltage	yes
Power reverse voltage	optional
Temperature monitoring	Processor, PCB
Voltage monitoring	Intermediate voltage
Current monitoring	I ² t, Phase current limiting
Over voltage protection	internal
Safe Torque Off (STO)	yes
Status	3 configurable LED

Controllers and Drives

SPATY DETACHED, SPATY CODER

Page 17

Scale Drawing



X1	Supply voltage Logic / Power
X2	Motor
X3	SPATY CODER
X4	Hall Sensors / Incremental Encoder / SSI
X5	I/O
X6	Fieldbus

SPATY CODER

SPATY CODER provides field oriented motor control and true-absolute multiturn encoder function to each motor. The data link to **SPATY DETACHED** is made by a reliably digital two-wire interface. Hence, standard cables for transmission of power and data communication can be employed.

Housing design and connectors

Option A	Option B	Option C
M23 connector for power transmission and data transfer by standard cable wiring.	Cable connection for power transmission and data transfer by standard cable wiring.	Low cost version for lower power with separate connections for power and data.

Data

Type	Singleturn / Multiturn
Resolution singleturn	max. 12 Bit (configurable)
Position accuracy	$\pm 0.7^\circ$
Number of turns	max. 16 Bit
Dimension	Diameter = 62 mm, Length = 30 mm

Controllers and Drives

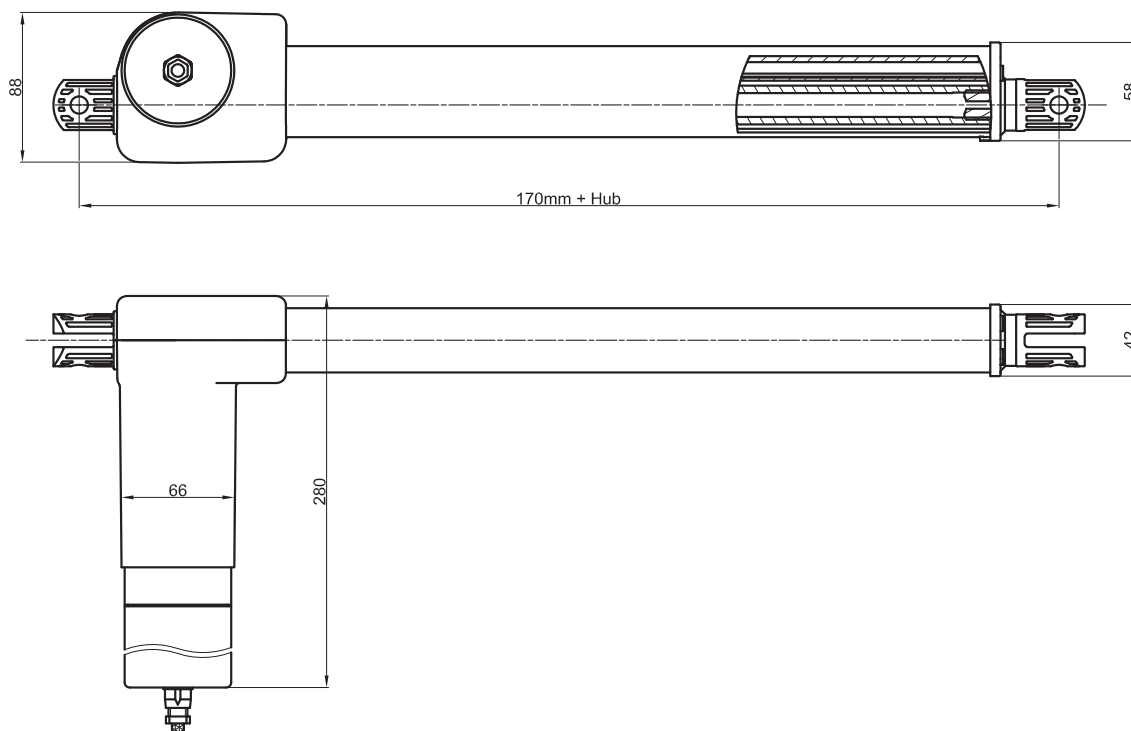
Linear Actuator

Features

- Intelligent SPATY-Controller
- DC driving motor
- Integrated true-absolute multiturn encoder
- Supply voltage 24V...36V, separate for controller and power stage
- Adjustment speed max. 20mm/s
- Nominal force 2000N
- Holding force 6000N
- Duty S2 / 20%
- Protection IP54
- Stroke max. 700mm
- Integrated brake for safe stop
- Safe torque off



Scale drawing



Controllers and Drives

Holding brakes / Accessories

Holding brakes

Spring-applied brake INTORQ BFK457

INTORQ GmbH & Co. KG

Sizes 01/02/03/04/05

- Braking torques: 0.12–4 Nm
- Compact: Fully assembled with rotor and flange
- Manual release available as an option



Compact, sizes 01 und 02



Compact, sizes 03, 04, 05



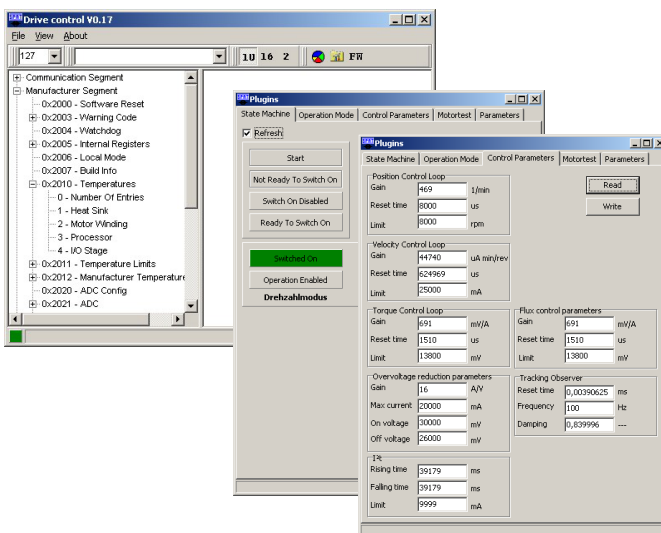
Additional features for all sizes

- Standard voltage DC 24 V (other voltages on request)
- Temperature class F (155°C)

Accessories

Maintenance tools

PC-Software „Drive Control“



- CANopen / RS-485
- Full parameter access
- Drive configuration
- Diagnostics
- Visualization of internal data and parameters
- Firmware update
- Plugins (e.g. state machine)

