



BENCHMARKS

- compact space
- high overload capability
- high efficiency
- integrated operating electronics
- 4-Q PI controller
- integrated voltage limitation
- Soft- / Hardware-adaptation possible

BLDC worm gear motor SN 15

High performance in the smallest of spaces with sophisticated operating and control electronics

The BLDC SN 15 worm geared motor offers maximum performance in the smallest of spaces. It contains sophisticated operating and control electronics. Its other qualities: it is extremely robust, very reliable and particularly quiet.

In the compact motor, the commutation electronics and a digital 4-quadrant speed controller with overcurrent capable output stage, blocking and overload protection are integrated to save space.

The microprocessor-controlled electronics perform a wide range of motor management tasks.

The combination with the precision worm gear SN15 results in an optimal connection. It is available in solid or hollow shaft design with various reduction options. The gearbox is equipped with ball bearings and lifetime lubrication.

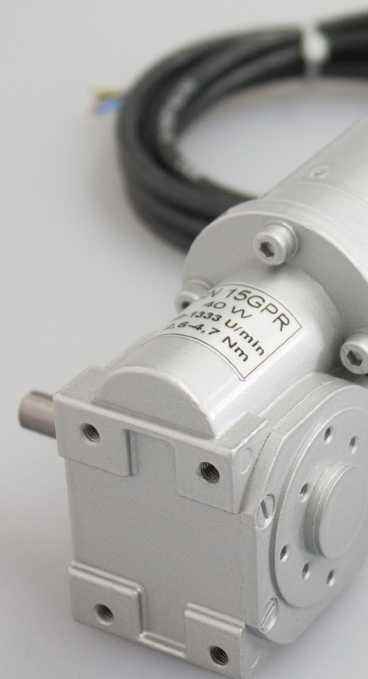
The worm gears are made of special bronze and the steel worms are hardened and ground. This results in less friction and higher efficiency.

Technical data:

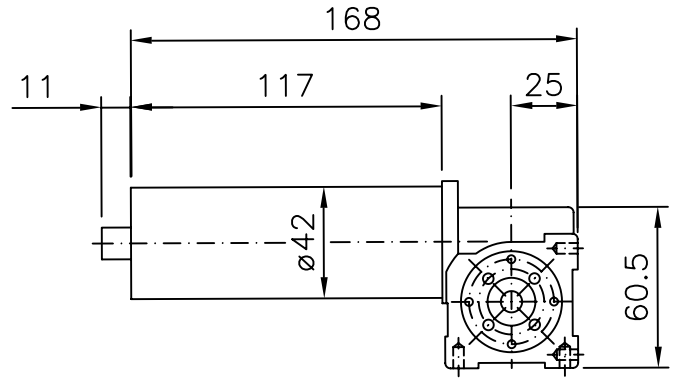
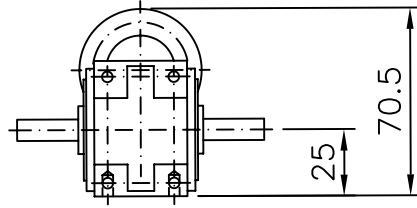
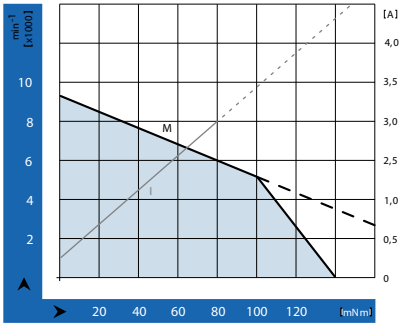
- 3-phase, dynamic internal rotor motor using EC technology with increased starting torque
- Integrated control electronics with powerful microcontroller
- Excellent regulating thanks to the 4-Q PI controller
- High efficiency thanks to the FET final stage
- Analogue target value input
- Overload protection thanks to an integrated current limiter
- Custom versions available through software and hardware adjustments (e.g. fixed rotation speed, direction of rotation)



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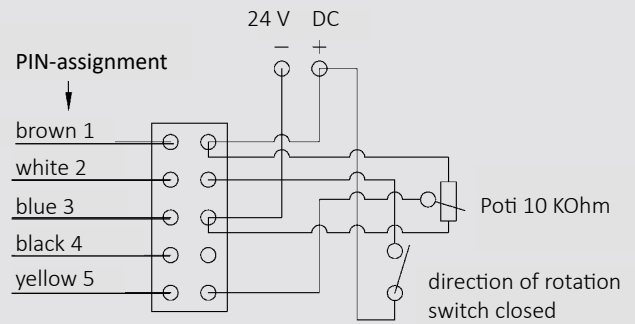
TECHNICAL DATA



// Characteristics

Nominal voltage (UBN)	24 (18 ... 28) V DC
Nominal speed (nN)	4000 min^{-1}
Nominal current (IBN)	3,0 A
Nominal output power (PN)	40 W
Target value input	0 ... 10 V
Temperature monitoring	yes
Overload protection	yes
Protection class	IP 40
Permissible ambient temperature (TU)	0 ... +40 °C

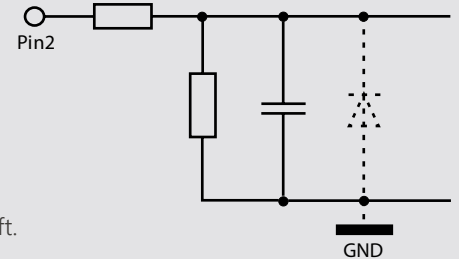
// Motor connection diagram for ECI42



1. Control input direction of rotation (PIN,,)

PIN 1	U_B
PIN 2	1 direction of rotation 0 Direction of rotation right
PIN 3	GND
PIN 4	actual speed drive
PIN 5	setpoint input

PIN 2
1 Direction of rotation left
0 Direction of rotation right
low (0) 0 ... 0,8 V
high (1) 2,4 ... 28 V
Direction of rotation seen on shaft.

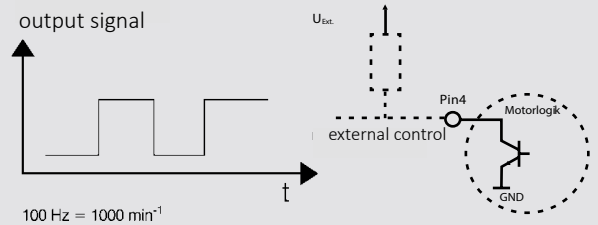


// Pin assignment | connector type

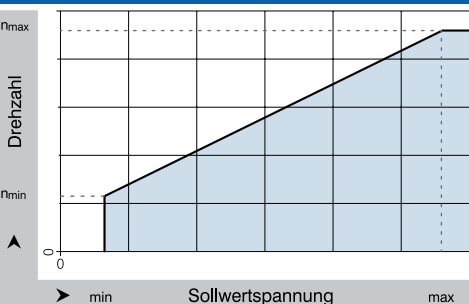
Lumberg	Type RKT 5-228 / ...m (straight connector)
	Type RKWT 5-228 / ...m (corner connector)
	Type FST 5-FKT 5-293 / ...m (Fixcon plug / connector)

2. Actual value output (PIN 4)

Type
Open Collector
 $U_{\text{ext. max}} = 30 \text{ V}$
 $U_{\text{CESAT}} = 0,5 \text{ V}$
 $I_{\text{CMAX}} = 5 \text{ mA}$



3. Setpoint input (PIN 5)



Speed setting for speed control by means of setpoint voltage
Interface 0 ... 10 V DC. (1 V = ~400 U/min)

At setpoint voltage <0.2 V, braking operation is activated.
The braking function is only used to brake the drives.
It is not a holding function for drive standstill.

