

- > Type approval EMV E1 10R-056112
- > Geared d.c. actuator motor with feedback potentiometer for swivel motion of up to 180° for the adjustment of Buschjost heating valves and ventilation flaps in commercial vehicles



Technical features

Gearing:

Irreversible

Mounting position:

Actuator vertical on top $\pm 90^\circ$
Other mounting positions by appointment

Direction of rotation:

Right/left

Rotation angle drive shaft:

183° -2/+5

Rated speed:

5,5 \pm 2 min⁻¹

Rated torque:

0,4 Ncm

Start-up torque:

100 ... 350 Ncm

Load drive shaft, static:

Holding torque max. 15 Ncm at room temperature
axial force 30 N
radial force 50 N

Limit stops:

Fitted to housing, unsprung

Mass:

0,125 kg

Installation:

\varnothing bolthead $\geq 8,5$ mm ≤ 11 mm
clamping force 1 kN / bolt

Temperature range:

-40 ... +110°C

Material:

Housing:
Polybutylenterephthalat (PBT)

Electrical features

Plug connector:

See connection table

Type of protection:

IP 6K9K with suitable power outlet (see connection table)

Rated voltage:

24 V d.c.

Operating voltage:

18 ... 32 V d.c.

Rated current:

≤ 100 mA

No-load current:

≤ 50 mA

Short-circuit current:

≤ 250 mA

Control pulse length:

≥ 65 ms
Busy period:
singular ≤ 30 s
Overall busy period:
 ≤ 200 h, 144.000 limit stops,
90° swivel angle,
activation 7.5 sec, pause 30 sec
busy periods 5 s, regulating time
max. 2,5 s

Reverse polarity protection:

All connections on vehicle protected against reverse polarity (max. 28 V, max. 60 sec) to ground and positive operating voltage except for slider connection.

Electrostatic discharge (ESD):

No interference (passive components only)

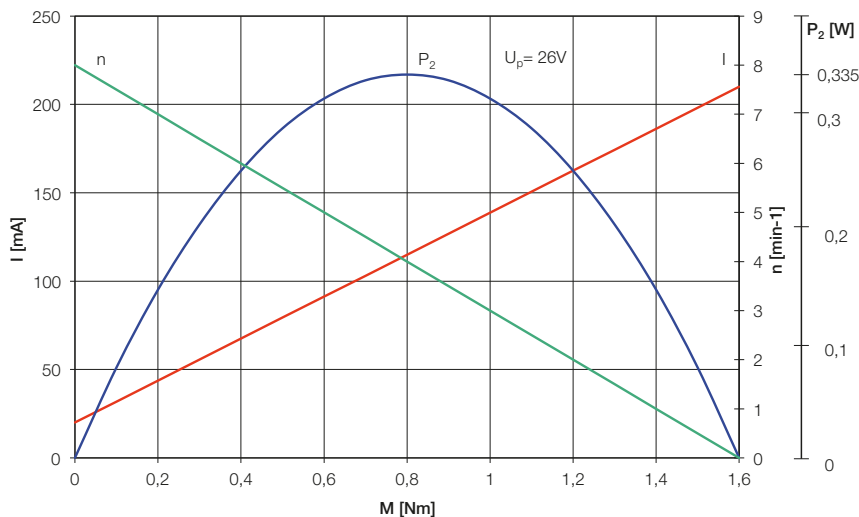
Interference immunity:

According ECE-scheme No. 10

Emitted interference:

According ECE-scheme No. 10

Diagram



Classification ISO 16750:2003

Z N A I E Z_A IP6K9K

ISO 16750-2 18 ... 32 V DC
 ISO 16750-3 mech. strain table 22
 ISO 16750-4 table 1 operating temp. -40 ... +110°C

ISO 16750-5 chem. strain motor housing + cavity protection
 ISO 16750-4 table 6 climatic strain

Feedback potentiometer

Supply voltage:

UR = 5 ± 0,5 V d.c.

Voltage divider ratio:

See drawing coupling connection

Noise:

$e_{i_{max}} / U_s < 1\%$
 according to VRCI 100-A
 with load resistor 100 kΩ

Resistance:

4,70 kΩ ±20%

Linearity:

3% (absolute)

Power rating P₄₀ :

0,25 W

Lifespan:

4 x 10⁶ actuations 10° by

-40 ... +110°C

Noise emission

Measuring reference

DIN EN 60534-8:

Idle running 47 dB(A)

Last 50 dB(A)

Lifespan

4 x 10⁶ actuations 10° by 90°C

ambient temperature

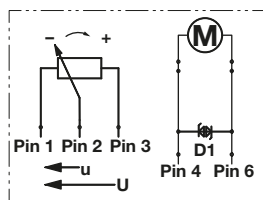
Connection table

Connector IP-class	Temperature Range	Connector Housing	Wire Size (mm ²)	Insulation diameter (mm)	Contact Finish	Contacts	Single Wire Sealing	Seal for unloaded cavities
IP 54	-40 ... +80°C	Bosch 1 928 403 095	0,5 ... 0,75	1,6 ... 1,9	gold plated	Tyco 965 906-5	Tyco 967 067-1	Tyco 967 056-1
IP6K9K	-40 ... +110°C	Tyco 2-967 616-1	0,5 ... 0,75	1,6 ... 1,9	gold plated	Tyco 965 906-5	Tyco 967 067-1	Tyco 967 056-1

The technical specifications stated describe the product in normal working order.

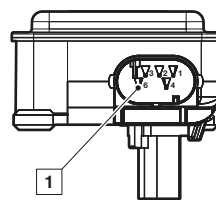
All specifications have to be checked by the user if suitable for the intended using purpose.

Wiring diagram



CW + on Pin 4
 CW - on Pin 6

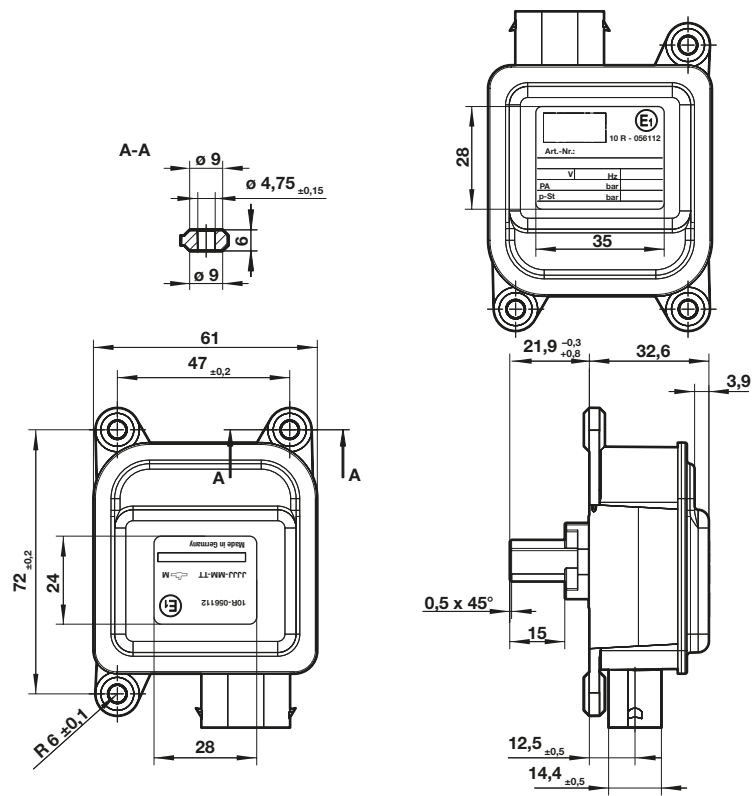
CCW + on Pin 6
 CCW - on Pin 4



1 Contacts gold plated

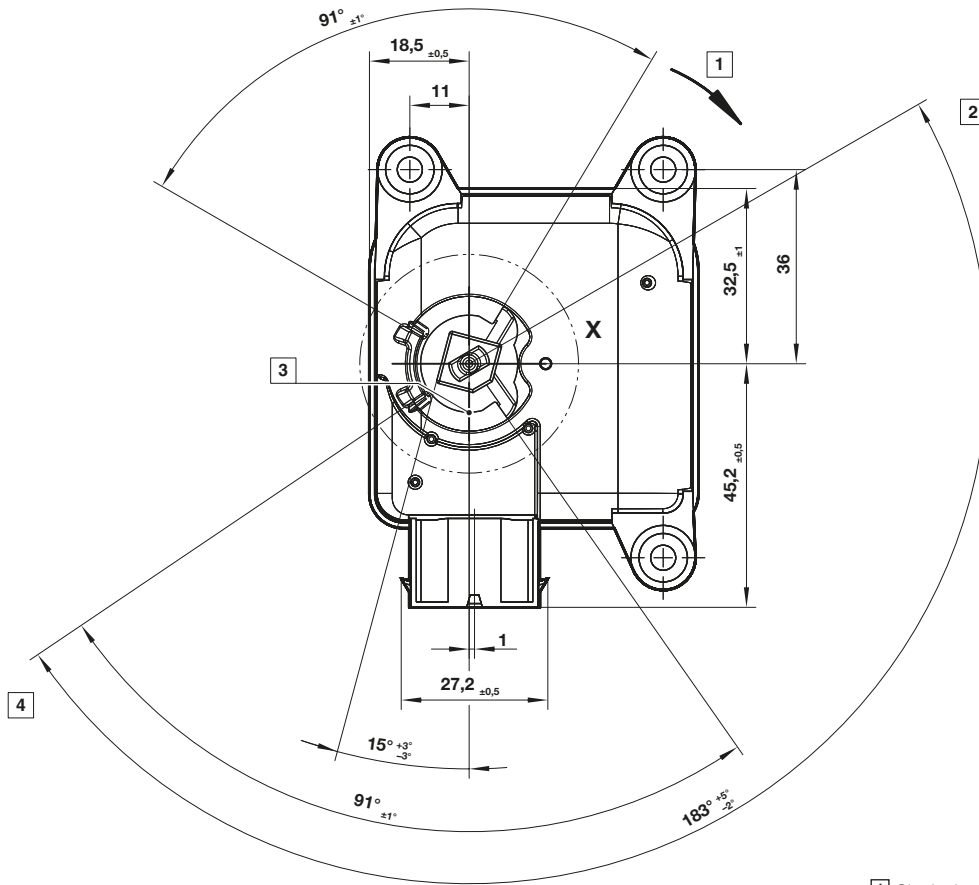
Dimensions

Dimensions in mm
 Projection/First angle



Coupling connection

Dimensions in mm
 Projection/First angle



- 1 Clockwise
- 2 $u/U=0,140 \pm 0,07$
- 3 Delivery Position
 $u/U=0,50 \pm 0,02$
- 4 $u/U=0,872 +0,09 / -0,07$

