

# **BRIEF INFORMATION**

# Locking actuator

- → Electrical locking/unlocking, space-saving, with or without micro switch
- → Compact, space-saving design
- → Electromotive reset or automatic (non-electric) reset
- → Easy to mount thanks to snap-fit mounting
- → Splash-proof
- → With or without micro switch
- → Explosion report for tank modules

### **PRODUCT FEATURES**

#### Application

The extremely space-saving design of this actuator makes it especially suitable for locking and unlocking applications in dry and wet areas (also via remote control, for example) where there is only limited space available.

#### Examples include:

- → Tank modules
- → Service flaps
- → Glove compartments
- → Locking of charging plugs (e-mobility)

### **PRODUCT FEATURES**

#### Design and function

When a voltage is applied, the motor integrated in the electromotive actuator moves the locking lever attached to the motor shaft.

There are two product variants available in the product range. The first variant of the actuator with electrical locking and unlocking function is particularly suitable for traditional applications, where the locking lever locks a hinged arm attached to the locking system by applying a voltage and then unlocks it by reversing the voltage polarity. The stability of the open/closed locking positions is achieved by the motor being short-circuited following successful triggering. The position of the locking element can also be defined via an integrated micro switch.

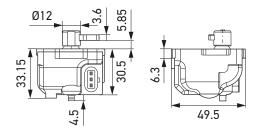
The second actuator variant has a return spring and a micro switch integrated. The micro switch is actuated by a slight movement of the locking lever, e.g. by pressing a service flap. Current is then applied to the actuator via a control unit. This makes the actuator locking lever retract completely, leaving the closing system open and triggering the spring-loaded opening of the service flap. The actuator is then switched off and the integrated return spring causes the locking lever to return to the locking position without the use of any current. In order to lock the service flap, this flap is pushed closed when the hinged arm of the service flap snaps into the actuator's locking lever.

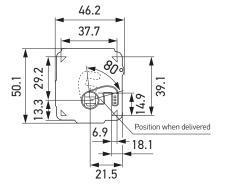
# **TECHNICAL DETAILS**

Article number	6NW 011 122-011/017		
Function	Electrical locking/unlocking, space-saving, electrical open an return rotation		
Weight	60 g		
Rated voltage	12 V		
Voltage range	9–15.5 V		
Maximum current consumption (stall current)	≤ 3.2 A		
No-load / idling current	≤ 2.0 A		
Locking lever pulling force	> 75 N (after lifetime > 50 N)		
Locking lever breaking force	≥ 300 N		
Functional angle	≤ 78°		
Actuating time for 78° via functional angle¹¹	40 ms < t < 200 ms		
Triggering time	0.2 s < t < 10 s		
Minimum switch on-time	t <sub>on, min</sub> = 200 ms		
Maximum switch on-time	t <sub>on, max</sub> = 10 s		
Breaking time	8 x t <sub>on</sub>		
Thermal overload protection	Not available		
Operating temperature	-40 °C to +85 °C		
Storage temperature	-40 °C to +90 °C		
Lifetime <sup>2)</sup>	100,000 cycles		
Conducted electromagnetic interference	DIN ISO 7637, SAE J1113-42		
Interference suppression CISPR 25, SAE J-1113-41	Intensity level 1 + 10 dB μV		
End position stability with motor short circuit	≤ 6°		
Protection class	IP 5K4		
Salt spray test in accordance with DIN 50 021 SS	96 h		
Vibration resistance in accordance with IEC 68-2-64	2.7 g		
Housing material	PP-GF30		
Sealing ring	NBR 70 Shore A		
Locking lever material	PAA GF60		
Resistant to	Petrol, diesel, biodiesel, ozone		
Pin coating	Galvanically tin-plated		
Connector	Hirschmann, 3-pin		
Mating connector <sup>3)</sup>	3-pin MLK coupling ELA 872-858-541		

 $<sup>^{\</sup>mbox{\tiny 1)}}$  Over the operating voltage and temperature range.

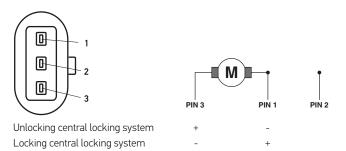
#### Technical drawing





#### Pin assignment/electrical connection

#### Hirschmann connector, 3-pin MLK



<sup>&</sup>lt;sup>2)</sup> One switching cycle equals one open and return rotation. 0,7 s on; 14 s off (reverse voltage); 0,7 s on; 14 s off (reverse voltage)

<sup>&</sup>lt;sup>3)</sup> These accessories are not included in the scope of delivery. Available from Hirschmann Automotive.

# **TECHNICAL DETAILS**

Article number	6NW 011 122-021/027	6NW 011 122-031/037	6NW 011 122-051/-057			
Function	Electrical locking / unlocking, space-saving with micro switch, electrical open and return rotation	Electrical locking / unlocking, space-saving, electrical open and return rotation with micro switch, without operating and locking elements	pen space-saving, electrical open iicro and return rotation with micro			
Weight	60 g					
Rated voltage	12 V					
Voltage range	9 – 15.5 V					
Maximum current consumption (stall current)	≤ 2.4 A					
No-load / idling current	≤ 1.0 A					
Locking lever pulling force	≥ 75 N					
Locking lever breaking force	≥ 300 N					
Functional angle	≤ 78°					
Actuating time for 78° via functional angle <sup>1)</sup>		40 ms < t < 200 ms				
Triggering time	0.2 s < t < 10 s					
Minimum switch on-time	t <sub>on, min</sub> = 200 ms					
Maximum switch on-time	t <sub>on,max</sub> = 10 s					
Breaking time	8 x t <sub>on</sub>					
Thermal overload protection	Not available					
Operating temperature	-40 °C to +85 °C					
Storage temperature	-40 °C to +90 °C					
Lifetime <sup>2)</sup>	60,000 cycles					
Conducted electromagnetic interference	Intensity level 2					
Interference suppression CISPR 25, SAE J-1113-41	≤ 18 mm Intensity level 1 + 10 dB μV					
Micro switch switching angle	8° to 18°					
End position stability with motor short circuit	≤ 6°					
Protection class	IP 5K4					
Salt spray test in accordance with DIN 50 021 SS	96 h					
Vibration resistance in accordance with IEC 68-2-64	2.7 g					
Housing material	PP-GF30					
Sealing ring	NBR 70 Shore A black					
Locking lever material	PAA GF60					
Resistant to	Petrol, diesel, biodiesel, ozone					
Pin coating	Galvanically tin-plated					
Connector	Hirschmann, 3-pin					
Mating connector <sup>3)</sup>	3-pin MLK coupling ELA 872-858KA					

<sup>&</sup>lt;sup>1)</sup> Over the operating voltage and temperature range.

 $<sup>^{\</sup>rm 2)}$  One switching cycle equals one open and return rotation.

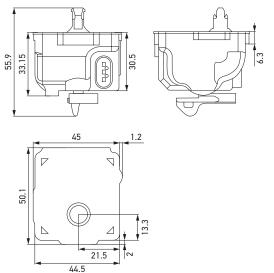
<sup>0,7</sup> s on; 14 s off (reverse voltage);

<sup>0,7</sup> s on; 14 s off (reverse voltage)

<sup>&</sup>lt;sup>3)</sup> These accessories are not included in the scope of delivery. Available from Hirschmann Automotive.

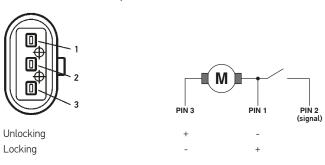
#### Technical drawing

#### 6NW 011 122-051

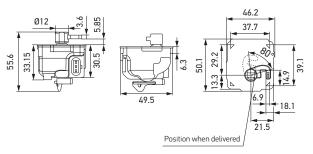


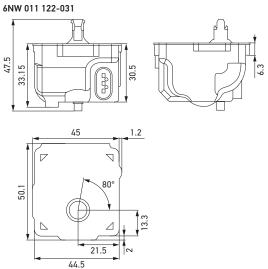
#### Pin assignment/electrical connection

#### Hirschmann connector, 3-pin MLK

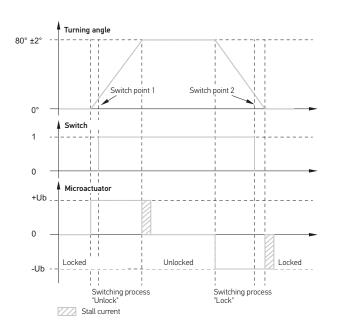


#### 6NW 011 122-027





#### Micro switch tripping

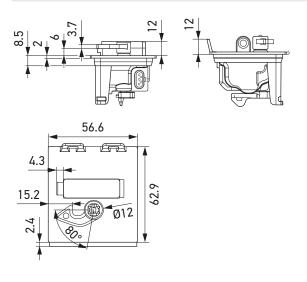


# **TECHNICAL DETAILS**

Function electrical open rotation, return rotation via return spring, with soft-touch button  Weight 60 g  Rated voltage 12 V  Voltage range 9-15.5 V  Maximum current consumption (stall current) ≤ 4.0 A  No-load / idling current ≤ 2.0 A  Locking lever pulling force 75 N  Locking lever breaking force 300 N  Micro switch triggering force ≤ 24 N  Functional angle ≤ 78°  Actuating time for 78° via functional angle 10.3 s < t < 4 s  Minimum switch on-time t <sub>on, max</sub> = 4 s  Breaking time 20 x t <sub>on</sub> Thermal overload protection Not available  Operating temperature -40 °C to +95 °C  Storage temperature -40 °C to +90 °C  Lifetime 10,000 cycles  Conducted electromagnetic interference suppression clisper 25, SAE J-1113-41  Micro switch switching angle 8°-18°  End position stability with motor short circuit 10 NB R 70 Shore A  Housing material PP-GF30  Sealing ring NBR 70 Shore A  Locking lever material PAA GF60  Protoction Class  Protoction Glass IP SK4 Cushone A  Locking lever material PAA GF60  Protocting Cusho, bronze plate, galvanically tin-plated Cusho, bronze plate, galvanically tin-plated PAI Ship Microsupplies II A  Protoction Class IP Sk4 Cushone A  Locking lever material PAA GF60  Protocting Cusho, bronze plate, galvanically tin-plated Cusho, bronze plate, galvanically tin-plated PAI Ship Microsupplies II A  Protoction Class IP Shore A  Locking lever material PAA GF60  Protoction Class IP Shore A  Locking lever material PAA GF60  Protoction Class IP Ship Microsupplies II A  Protoction Class IP Ship Microsupplies II A  Protoction Class II A	Article number	6NW 011 122-041/047		
Rated voltage    12 V	Function	space-saving with micro switch electrical open rotation, return rotation via return spring, with		
Voltage range  9 − 15.5 V  Maximum current consumption (stall current)  Solution   ≤ 4.0 A    Voload / idling current   ≤ 2.0 A    Locking lever pulling force   75 N    Locking lever breaking force   300 N    Micro switch triggering force   ≤ 24 N    Functional angle   ≤ 78°    Actuating time for 78° via functional angle   √5 ms < t < 220 ms    Triggering time   0.3 s < t < 4 s    Minimum switch on-time   t <sub>on, min</sub> = 300 ms    Maximum switch on-time   t <sub>on, min</sub> = 4 s    Breaking time   20 x t <sub>on</sub>    Thermal overload protection   Not available    Operating temperature   −40 °C to +85 °C    Storage temperature   −40 °C to +90 °C    Lifetime²0   10,000 cycles    Conducted electromagnetic interference   SAE J1113-42    Interference suppression   Intensity level 1 + 10 dB μV    Micro switch switching angle   8° − 18°    End position stability with motor short circuit   ≤ 6°    Protection class   IP 5K4    Salt spray test in accordance with DIN 50 021 SS   96 h    Vibration resistance in accordance with IEC 68-2-64    Housing material   PP-GF30    Sealing ring   NBR 70 Shore A    Petrol, diesel, biodiesel, ozone    CuSn6, bronze plate, galvanically tin-plated    Connector   Hirschmann, 3-pin    Matina connector   Matina conplaing LA	Weight	60 g		
Maximum current consumption (stall current)  No-load / idling current  Locking lever pulling force  Locking lever breaking force  Micro switch triggering force  Functional angle  Actuating time for 78° via functional angle  Actuating time for 78° via functional angle  Triggering time  No-load / idling current  Locking lever breaking force  45 NN  Actualing time for 78° via functional angle  Triggering time  No-load / idling current  Locking lever breaking force  45 NN  Actuating time for 78° via functional angle  Triggering time  No-load / idling current  Locking leme  10.3 s < t < 4 s  Locking lever breaking force  45 ms < t < 220 ms  Actuating time for 78° via functional angle  Locking lever breaking force  20 x t <sub>on</sub> Not available  10 con +85 °C  Ad °C to +85 °C  Ad °C to +90 °C  Lifetime²  10,000 cycles  Conducted electromagnetic interference  Lifetime²  10,000 cycles  Conducted electromagnetic interference suppression  CISPR 25, SAE J-1113-41  Intensity level 1 + 10 dB μV  Micro switch switching angle  8° −18°  End position stability with motor short circuit  Protection class  IP 5K4  Salt spray test in accordance with DIN 50 021 SS  Vibration resistance in accordance with DIN 50 021 SS  Vibration resistance in accordance with DIC 68-2-64  Housing material  PP-GF30  Sealing ring  NBR 70 Shore A  PAA GF60  Petrol, diesel, biodiesel, ozone  CuSn6, bronze plate, galvanically tin-plated  Connector  Hirschmann, 3-pin  Mating geopoctor³  Asign Augustang Mating geopoctor³  3-pin MLK coupling ELA	Rated voltage	12 V		
(stall current)       ≤ 4.0 A         No-load / idling current       ≤ 2.0 A         Locking lever pulling force       75 N         Locking lever breaking force       ≤ 24 N         Micro switch triggering force       ≤ 24 N         Functional angle       ≤ 78°         Actuating time for 78° via functional angle¹¹)       45 ms < t < 220 ms	Voltage range	9–15.5 V		
Locking lever pulling force  Cocking lever breaking force  Cocking lever breaking force  Micro switch triggering force  Solutional angle  Actuating time for 78° via functional angle  Triggering time  Cocking lever breaking force  Solutional angle  Actuating time for 78° via functional angle  Triggering time  Cocking lever material  Actuating time for 78° via functional angle  Actuating time for 78° via functional angle  Solutional angle  Actuating time for 78° via functional angle  Actuating time for 78° via functional angle  Actuating time for 78° via functional angle  Solutional angle  Actuating time for 78° via functional angle  Triggering time  Cocking lever material  Actuating time for 78° via functional angle  Solutional angle  Actuating lever breaking angle missing level 1 + 10 dB µV  Actuating lever material  Actuating lever leve		≤ 4.0 A		
Locking lever breaking force       300 N         Micro switch triggering force       ≤ 24 N         Functional angle       ≤ 78°         Actuating time for 78° via functional angle?       45 ms < t < 220 ms	No-load / idling current	≤ 2.0 A		
Micro switch triggering force ≤ 24 N  Functional angle ≤ 78°  Actuating time for 78° via functional angle)  Actuating time for 78° via functional angle)  Triggering time 0.3 s < t < 4 s  Minimum switch on-time to not make the simple state of th	Locking lever pulling force	75 N		
Functional angle ≤ 78°  Actuating time for 78° via functional angle¹)  Triggering time  0.3 s < t < 4 s  Minimum switch on-time  ton, min = 300 ms  Maximum switch on-time  Thermal overload protection  Operating temperature  -40 °C to +85 °C  -40 °C to +90 °C  Storage temperature  Lifetime²¹  10,000 cycles  Conducted electromagnetic interference suppression CISPR 25, SAE J-1113-41  Micro switch switching angle  End position stability with motor short circuit  Protection class  IP 5K4  Salt spray test in accordance with DIN 50 021 SS  Vibration resistance in accordance with IEC 68-2-64  Housing material  PP-GF30  Resistant to  Petrol, diesel, biodiesel, ozone  Connector  Mating spragestor²¹  Mating spragestor²¹  Mating spragestor²¹  Mating spragestor²¹  Mating spragestor²¹  As minimum selector  45 ms < t < 220 ms  45 ms < t < 20 ms  45 ms < t < 220 ms  46 ms < t < 220 ms  47	Locking lever breaking force	300 N		
Actuating time for 78° via functional angle¹¹    Triggering time    0.3 s < t < 4 s    Minimum switch on-time    Maximum switch on-time    Ereaking time    Con_max = 4 s    Breaking time    Thermal overload protection    Operating temperature    Conducted electromagnetic interference suppression CISPR 25, SAE J-1113-41    Intersity level 1 + 10 dB µV    Micro switch switching angle    End position stability with motor short circuit    Protection class    Salt spray test in accordance with DIN 50 021 SS    Vibration resistance in accordance with DIN 50 021 SS    Vibration resistance in accordance with IEC 68-2-64    Housing material    Petrol, diesel, biodiesel, ozone    CuSn6, bronze plate, galvanically tin-plated    Mating sprengstor³³    Mating sprengstor³³    Actuating Ede    45 ms < t < 220 ms    45 ms < t < 220 ms    45 ms < t < 220 ms    45 ms < t < 4 s    45 ms < t < 220 ms    45 ms < t < t < 220 ms    45 ms < t < 220 ms    4	Micro switch triggering force	≤ 24 N		
via functional angle <sup>1)</sup> 45 ms < t < 20 ms	Functional angle	≤ 78°		
Minimum switch on-time       t <sub>on, min</sub> = 300 ms         Maximum switch on-time       t <sub>on, max</sub> = 4 s         Breaking time       20 x t <sub>on</sub> Thermal overload protection       Not available         Operating temperature       -40 °C to +85 °C         Storage temperature       -40 °C to +90 °C         Lifetime²       10,000 cycles         Conducted electromagnetic interference       DIN ISO 7637, SAE J1113-42         Interference suppression CISPR 25, SAE J-1113-41       Intensity level 1 + 10 dB μV         Micro switch switching angle       8° − 18°         End position stability with motor short circuit       ≤ 6°         Protection class       IP 5K4         Salt spray test in accordance with DIN 50 021 SS       96 h         Vibration resistance in accordance with IEC 68-2-64       2.7 g         Housing material       PP-GF30         Sealing ring       NBR 70 Shore A         Locking lever material       PAA GF60         Resistant to       Petrol, diesel, biodiesel, ozone         Pin coating       CuSn6, bronze plate, galvanically tin-plated         Mating connector³       3-pin MLK coupling ELA		45 ms < t < 220 ms		
Maximum switch on-time       t <sub>on, max</sub> = 4 s         Breaking time       20 x t <sub>on</sub> Thermal overload protection       Not available         Operating temperature       -40 °C to +85 °C         Storage temperature       -40 °C to +90 °C         Lifetime²)       10,000 cycles         Conducted electromagnetic interference       DIN ISO 7637, SAE J1113-42         Interference suppression CISPR 25, SAE J-1113-41       Intensity level 1 + 10 dB μV         Micro switch switching angle       8° – 18°         End position stability with motor short circuit       ≤ 6°         Protection class       IP 5K4         Salt spray test in accordance with DIN 50 021 SS       96 h         Vibration resistance in accordance with IEC 68-2-64       2.7 g         Housing material       PP-GF30         Sealing ring       NBR 70 Shore A         Locking lever material       PAA GF60         Resistant to       Petrol, diesel, biodiesel, ozone         CuSn6, bronze plate, galvanically tin-plated         Hirschmann, 3-pin         Mating connector³       3-pin MLK coupling ELA	Triggering time	0.3 s <t <4="" s<="" td=""></t>		
Breaking time  20 x t <sub>on</sub> Thermal overload protection  Not available  -40 °C to +85 °C  -40 °C to +90 °C  Lifetime²)  10,000 cycles  DIN ISO 7637, SAE J1113-42  Interference suppression CISPR 25, SAE J-1113-41  Micro switch switching angle  End position stability with motor short circuit  Protection class  IP 5K4  Salt spray test in accordance with DIN 50 021 SS  Vibration resistance in accordance with IEC 68-2-64  Housing material  Perofeso  Resistant to  Petrol, diesel, biodiesel, ozone  CuSn6, bronze plate, galvanically tin-plated  Mating connector³  Mating connector³  Mating connectors  Not available  -40 °C to +85 °C  -40 °C to +90 °C  Intensity level 1 + 10 dB μV  BIN ISO 7637, SAE J1113-42  Intensity level 1 + 10 dB μV  8° −18°  ≤ 6°  Py −6°  Py −6°  NB Py −6°  NBR 70 Shore A  PAA GF60  Petrol, diesel, biodiesel, ozone  CuSn6, bronze plate, galvanically tin-plated  Hirschmann, 3-pin  3-pin MLK coupling ELA	Minimum switch on-time	t <sub>on, min</sub> = 300 ms		
Thermal overload protection  Operating temperature  -40 °C to +85 °C  -40 °C to +90 °C  Lifetime²  10,000 cycles  Conducted electromagnetic interference  Interference suppression CISPR 25, SAE J-1113-41  Micro switch switching angle  End position stability with motor short circuit  Protection class  IP 5K4  Salt spray test in accordance with DIN 50 021 SS  Vibration resistance in accordance with IEC 68-2-64  Housing material  Pe-GF30  NBR 70 Shore A  Pating seppector²  Connector  Mating connector  Jon 20 Cto +85 °C  -40 °C to +90 °C  Intersity source  All public to +10 dB μV  By 3 - 18°  See Jin 113-42  Intensity level 1 + 10 dB μV  8° - 18°  See Jin 113-42  Intensity level 1 + 10 dB μV  8° - 18°  See Jin 113-42  Intensity level 1 + 10 dB μV  8° - 18°  See Jin 113-42  Intensity level 1 + 10 dB μV  8° - 18°  See Jin 113-42  Intensity level 1 + 10 dB μV  8° - 18°  See Jin 113-42  Intensity level 1 + 10 dB μV  8° - 18°  See Jin 113-42  Intensity level 1 + 10 dB μV  8° - 18°  See Jin 113-42  Intensity level 1 + 10 dB μV  8° - 18°  See Jin 113-42  Intensity level 1 + 10 dB μV  8° - 18°  See Jin 113-42  Intensity level 1 + 10 dB μV  8° - 18°  See Jin 113-42  Intensity level 1 + 10 dB μV  8° - 18°  See Jin 113-42  Intensity level 1 + 10 dB μV  Intensity level 1 + 10 dB	Maximum switch on-time			
Operating temperature  -40 °C to +85 °C  -40 °C to +90 °C  Lifetime²  10,000 cycles  DIN ISO 7637, SAE J1113-42  Interference suppression CISPR 25, SAE J-1113-41  Micro switch switching angle  End position stability with motor short circuit  Protection class  IP 5K4  Salt spray test in accordance with DIN 50 021 SS  Vibration resistance in accordance with IEC 68-2-64  Housing material  PP-GF30  NBR 70 Shore A  PAA GF60  Petrol, diesel, biodiesel, ozone  CuSn6, bronze plate, galvanically tin-plated  Connector  Matting connector³  Matting connector³  Matting connector³  Matting connector  Matting connector  Matting connectors  10,000 cycles  10,000 cycles  DIN ISO 7637, SAE J1113-42  Intensity level 1 + 10 dB μV  8° −18°  8' −18°  8' −18°  9' −18°  8' −18°  2 6°  PF 5K4  96 h  NBR 70 Shore A  PP-GF30  NBR 70 Shore A  PAA GF60  Petrol, diesel, biodiesel, ozone  CuSn6, bronze plate, galvanically tin-plated  Hirschmann, 3-pin  3-pin MLK coupling ELA	Breaking time	20 x t <sub>on</sub>		
Storage temperature  -40 °C to +90 °C  10,000 cycles  Conducted electromagnetic interference  Interference suppression CISPR 25, SAE J-1113-41  Micro switch switching angle  End position stability with motor short circuit  Protection class  Salt spray test in accordance with DIN 50 021 SS  Vibration resistance in accordance with IEC 68-2-64  Housing material  Peach GF60  Resistant to  Petrol, diesel, biodiesel, ozone  CuSn6, bronze plate, galvanically tin-plated  Mating cappactor <sup>2)</sup> Appin MLK coupling ELA	Thermal overload protection	Not available		
Lifetime <sup>2)</sup> 10,000 cycles  Conducted electromagnetic interference  Interference Suppression CISPR 25, SAE J-1113-41  Micro switch switching angle  End position stability with motor short circuit  Protection class  Salt spray test in accordance with DIN 50 021 SS  Vibration resistance in accordance with IEC 68-2-64  Housing material  Perof GF30  NBR 70 Shore A  Petrol, diesel, biodiesel, ozone CuSn6, bronze plate, galvanically tin-plated  Connector  Mating cappacter <sup>2)</sup> Mating cappacter <sup>2)</sup> Mating cappacter <sup>2)</sup> Jin 10,000 cycles  DIN ISO 7637, SAE J-1113-42  Intensity level 1 + 10 dB μV  All Intensity level 1 + 10 dB μV  Se J 1113-42  Intensity level 1 + 10 dB μV  Se J 18°  Se J 18	Operating temperature	-40 °C to +85 °C		
Conducted electromagnetic interference  Conducted electromagnetic interference  Interference suppression CISPR 25, SAE J-1113-41  Micro switch switching angle  End position stability with motor short circuit  Protection class  IP 5K4  Salt spray test in accordance with DIN 50 021 SS  Vibration resistance in accordance with IEC 68-2-64  Housing material  PP-GF30  Sealing ring  NBR 70 Shore A  PAA GF60  Resistant to  Petrol, diesel, biodiesel, ozone  CuSn6, bronze plate, galvanically tin-plated  Connector  Matting connectors  Matting connectors  Matting connectors  DIN ISO 7637, SAE J1113-42  Intensity level 1 + 10 dB μV  8° −18°  8' −18°  4' 0  NBR 70 SK4  PF 5K4  PP-GF30  NBR 70 Shore A  PAA GF60  Petrol, diesel, biodiesel, ozone  CuSn6, bronze plate, galvanically tin-plated  Hirschmann, 3-pin  3-pin MLK coupling ELA	Storage temperature	-40 °C to +90 °C		
Interference SAE J1113-42  Interference suppression CISPR 25, SAE J-1113-41  Micro switch switching angle 8° − 18°  End position stability with motor short circuit Protection class IP 5K4  Salt spray test in accordance with DIN 50 021 SS  Vibration resistance in accordance with IEC 68-2-64  Housing material PP-GF30  Sealing ring NBR 70 Shore A  Position coating CuSn6, bronze plate, galvanically tin-plated  Connector Mating connector <sup>20</sup> Mating connector <sup>20</sup> Mating connector <sup>20</sup> Intensity level 1 + 10 dB μV  Intensity level 1 + 10 dB μV  8° − 18°  ≤ 6°  IP 5K4  96 h  2.7 g  PP-GF30  NBR 70 Shore A  PAA GF60  Petrol, diesel, biodiesel, ozone  CuSn6, bronze plate, galvanically tin-plated  Hirschmann, 3-pin  3-pin MLK coupling ELA	Lifetime <sup>2)</sup>	10,000 cycles		
CISPR 25, SAE J-1113-41  Micro switch switching angle  End position stability with motor short circuit  Protection class  IP 5K4  Salt spray test in accordance with DIN 50 021 SS  Vibration resistance in accordance with IEC 68-2-64  Housing material  PP-GF30  Sealing ring  NBR 70 Shore A  PAA GF60  Petrol, diesel, biodiesel, ozone  CuSn6, bronze plate, galvanically tin-plated  Connector  Mating connector				
End position stability with motor short circuit  Protection class  IP 5K4  Salt spray test in accordance with DIN 50 021 SS  Vibration resistance in accordance with IEC 68-2-64  Housing material  PP-GF30  Sealing ring  NBR 70 Shore A  Locking lever material  PAA GF60  Resistant to  Petrol, diesel, biodiesel, ozone CuSn6, bronze plate, galvanically tin-plated  Connector  Hirschmann, 3-pin  Mating connector <sup>3)</sup> Mating connector <sup>3)</sup> Assignment of the control of the c		Intensity level 1 + 10 dB μV		
with motor short circuit  Protection class  IP 5K4  Salt spray test in accordance with DIN 50 021 SS  Vibration resistance in accordance with IEC 68-2-64  Housing material  PP-GF30  NBR 70 Shore A  Locking lever material  PAA GF60  Resistant to  Petrol, diesel, biodiesel, ozone  CuSn6, bronze plate, galvanically tin-plated  Connector  Hirschmann, 3-pin  Mating connector <sup>3)</sup> 3-pin MLK coupling ELA	Micro switch switching angle	8°-18°		
Salt spray test in accordance with DIN 50 021 SS  Vibration resistance in accordance with IEC 68-2-64  Housing material  PP-GF30  NBR 70 Shore A  Locking lever material  PAA GF60  Resistant to  Petrol, diesel, biodiesel, ozone  CuSn6, bronze plate, galvanically tin-plated  Connector  Hirschmann, 3-pin  Mating connector <sup>3)</sup> 3-pin MLK coupling ELA		≤ 6°		
with DIN 50 021 SS  Vibration resistance in accordance with IEC 68-2-64  Housing material  PP-GF30  NBR 70 Shore A  Locking lever material  PAA GF60  Resistant to  Petrol, diesel, biodiesel, ozone  CuSn6, bronze plate, galvanically tin-plated  Connector  Hirschmann, 3-pin  3-pin MLK coupling ELA	Protection class	IP 5K4		
with IEC 68-2-64  Housing material  PP-GF30  Sealing ring  NBR 70 Shore A  Locking lever material  PAA GF60  Resistant to  Petrol, diesel, biodiesel, ozone  CuSn6, bronze plate, galvanically tin-plated  Connector  Hirschmann, 3-pin  3-pin MLK coupling ELA		96 h		
Sealing ring  NBR 70 Shore A  PAA GF60  Resistant to  Petrol, diesel, biodiesel, ozone  CuSn6, bronze plate, galvanically tin-plated  Connector  Hirschmann, 3-pin  3-pin MLK coupling ELA		2.7 g		
PAA GF60  Resistant to  Petrol, diesel, biodiesel, ozone  CuSn6, bronze plate, galvanically tin-plated  Connector  Hirschmann, 3-pin  3-pin MLK coupling ELA	Housing material	PP-GF30		
Resistant to Petrol, diesel, biodiesel, ozone CuSn6, bronze plate, galvanically tin-plated Connector Hirschmann, 3-pin 3-pin MLK coupling ELA	Sealing ring	NBR 70 Shore A		
CuSn6, bronze plate, galvanically tin-plated  Connector Hirschmann, 3-pin  3-pin MLK coupling ELA	Locking lever material	PAA GF60		
galvanically tin-plated  Connector Hirschmann, 3-pin  3-pin MLK coupling ELA	Resistant to	Petrol, diesel, biodiesel, ozone		
Mating connector <sup>3)</sup> 3-pin MLK coupling ELA	Pin coating			
	Connector	Hirschmann, 3-pin		
	Mating connector <sup>3)</sup>			

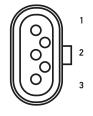
<sup>&</sup>lt;sup>1)</sup> Over the operating voltage and temperature range.

#### Technical drawing

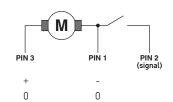


#### Pin assignment/electrical connection

#### Hirschmann connector, 3-pin MLK



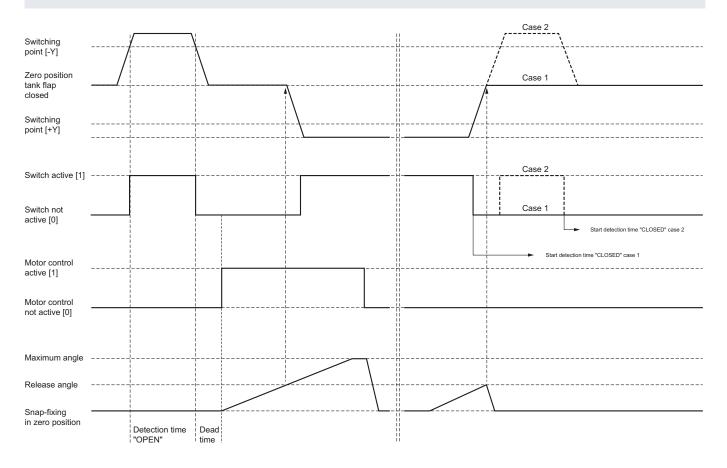
Softtouch unlocking Softtouch locking



 $<sup>^{2)}</sup>$  One switching cycle equals one open and return rotation. 0,7 s on; 14 s off (reverse voltage); 0,7 s on; 14 s off (reverse voltage)

<sup>3)</sup> These accessories are not included in the scope of delivery. Available from Hirschmann Automotive.

#### Switching process function sequence



#### Detection time "OPEN"

#### Description:

Minimum period of time that the operator has to hold the operating element depressed for opening to take place.

#### Explanation:

In order that short pulses do not lead to unintentional opening, the "Open" detection time starts when the status changes from [0], operating element not depressed, to [1], operating element depressed. If the state [1] "Switch active" is detected for longer than the preset value, opening is initiated when the state changes from [1] to [0].

#### Dead time

#### Description:

Time between switch change to [0] and activation of the motor control [1] when an opening process is initiated.

#### Explanation:

On the electronic side, there occurs a system reaction time comprising switch debouncing and the system runtime. This can result in a delay of up to 70 ms, which then extends the non-parameterisable (actual) dead time of the opening process.

#### Detection time "CLOSED"

#### Description:

Minimum time that the application has to be closed before a new opening process can be initiated by the operator.

#### Explanation:

When the application is open, the switch signal is active [1]. As soon as the operator closes the application, the switch signal changes to inactive [0]. The "CLOSED" detection time starts to run when the switch is set to inactive [0]. Two instances are possible when closing (see case studies).

#### Case studies

#### Case 1:

The operator does not press down to the end stop when closing the application. The signal changes from "Switch active" [1] to "Switch not active" [0] and the detection time "CLOSED" starts. As soon as the preset time has expired, the application can be reopened.

#### Case 2:

When closing the application, the operator presses down to the end stop. This means that the signal first changes from "Switch active" [1] to "Switch not active" [0] and the "CLOSED" detection time starts. When the operator presses down again to the end stop, the signal changes back to "Switch active" [1] and the detection time "CLOSED" which has not yet expired is reset. As soon as the operator releases the application, the signal changes to "Switch not active" [0] and the "CLOSED" detection time starts again.

# **PROGRAM OVERVIEW**

Product picture	Function	Manual adjustment	Article number	Packaging unit
	Electrical open and return rotation	No	6NW 011 122-011 6NW 011 122-017	1 132
	Electrical open and return rotation, with micro switch	No	6NW 011 122-021 6NW 011 122-027	1 126
	Electrical open and return rotation, with micro switch, without operating element, without locking element	No	6NW 011 122-031 6NW 011 122-037	1 132
	Electrical open and return rotation, with micro switch, with operating element, without locking element	No	6NW 011 122-051 6NW 011 122-057	1 126
87	Electrical open rotation and return rotation via return spring with soft touch button	Yes	6NW 011 122-041 6NW 011 122-047	1 60