

Series 09
Rugged. Modular. Reliable.







09 Overview of Modules

Rugged Keypads. Optimal for your application.

Series 09 variants




The Series 09 Keypads and Rotary Cursor Controllers are available in a range of different variants. They all have the flexibility of interchangeable legends, but come with a choice of different halo illumination features, communication protocols and connector types for example.

This wide choice allows designers to specify only the HMI features they actually need for their vehicle application, therefore minimising hardware costs and optimising the scope of their software development – optimal for your application.

Variants	Symbol backlight	Halo ring illumination	Communica- tion protocol	Switching element	IP protection	Connector	Switching func- tion/s	Functional safety standard
PREMIUM 	White LED	4-segment RGB, freely configur- able	CANopen Safety	Electro- mechanical switching element	IP6K7 frontside and rear- side	Deutsch DT04-6P	Pushbutton	Functional safety ISO 26262 ASIL B and ISO 13849 PL d certi- fied*
SUPER 	White LED	4-segment RGB, freely configur- able	CANopen, J1939	Electro- mechanical switching element	IP6K7 frontside and rear- side	Deutsch DT04-6P	Pushbutton	Design for functional safety: ISO 26262 ASIL B and ISO 13849 PL d
PLUS 	White LED	Red LED (other colours on request)	CANopen, J1939	Electro- mechanical switching element	IP6K7 frontside and rear- side	Deutsch DT04-6P	Pushbutton	Fulfil ASIL QM (B) according to ISO 26262
BASIC 	White LED	Red LED (other colours on request)	N.A. (hardwired)	Electro- mechanical switching element	IP6K7 frontside	Würth Elektronik WR- MPC3, 16 pins	Pushbutton	Fulfil ASIL QM (B) according to ISO 26262

* Available at a later date, see: www.eao.com/09-status



Variants	Symbol backlight	Halo ring illumination	Communica- tion protocol	Switching element	IP protection	Connector	Switching func- tion/s	Functional safety standard
PREMIUM 	White LED	4-segment RGB (push- button), freely con- figurable	CANopen Safety	Electro- mechanical switching element	IP6K7 frontside and rear- side	Deutsch DT04-6P	Pushbuttons: push RCC*: push, rotate, proportional input	Functional safety ISO 26262 ASIL B and ISO 13849 PL d certi- fied*
SUPER 	White LED	4-segment RGB (push- button), freely con- figurable	CANopen, J1939	Electro- mechanical switching element	IP6K7 frontside and rear- side	Deutsch DT04-6P	Pushbuttons: push RCC*: push, rotate, proportional input	Design for functional safety: ISO 26262 ASIL B and ISO 13849 PL d
PLUS 	White LED	Red LED (push- buttons)	CANopen, J1939	Electro- mechanical switching element	IP6K7 frontside and rear- side	Deutsch DT04-6P	Pushbuttons: push RCC*: push, rotate, proportional input	Switching function with diagnostic capability for ASIL QM (B) acc. to ISO 26262

* Functional safety certification applies to the switching signal of the two keypad pushbuttons.

09 Overview of Modules



Rugged. Modular. Reliable. *New Series 09 Rugged Keypads.*





Designed for E1 applications with functional safety and CAN bus integration.

- Individual 4-segment and RGB halo ring illumination
- Designed for functional safety: ISO 26262 and ISO 13849
- Intelligent HMIs with CAN bus integration
- Robust design sealed up to IP67 protection
- Interchangeable ISO 7000 or customised symbols

Customer-specific product diversity.

Series 09 In-Cabin Keypads with 6 pushbuttons are available in SUPER, PLUS and BASIC variants. These differ in terms of illumination options and the communication interface. The hard-wired BASIC product variant is available, as an additional option, in a 2-pushbutton version.

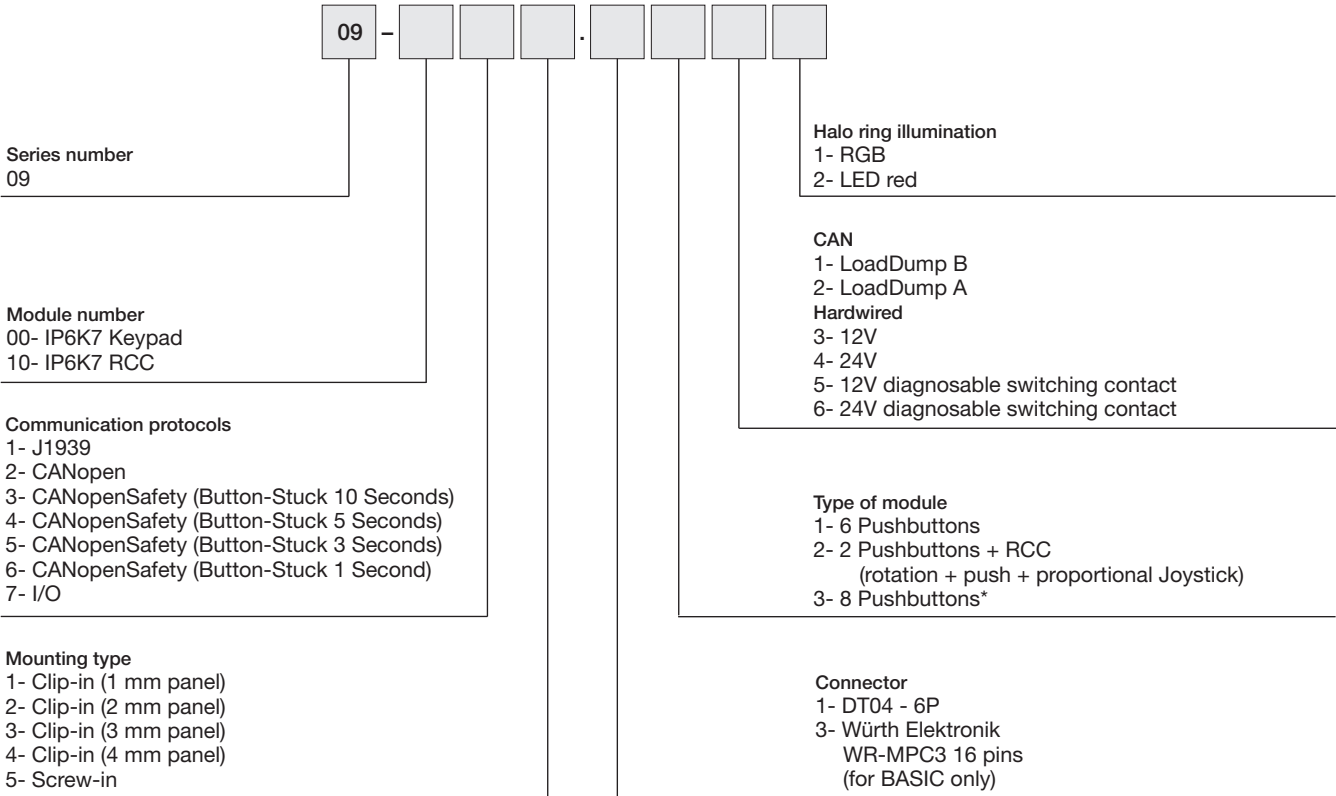
With this wide range of variants, customers can choose between a CAN bus connection or hard-wired version depending on their application, and they can further customise their keypad thanks to a variety of illumination options and interchangeable custom or ISO 7000 symbols – for optimal integration of the HMI in the vehicle interior.

Product	Variant	Symbol illumination	Halo-ring illumination	Communication protocol	IP protection class	Plug	Switching action	Safety
Keypad 6PB 	SUPER	White LED	RGB, freely configurable	CANopen, J1939	IP5K4	TYCO 1745000-3	Pushbutton	Diagnostic switching action for ASIL QM (B) in accordance with ISO 26262
Keypad 6PB 	PLUS	White LED	Red LED (other colours on request)	CANopen, J1939	IP5K4	TYCO 1745000-3	Pushbutton	Diagnostic switching action for ASIL QM (B) in accordance with ISO 26262
Keypad 6PB 	BASIC	White LED	Red LED	n/a (hard-wired)	IP5K4	TYCO 1745000-3/ 1745000-4	Pushbutton	Diagnostic switching action for ASIL QM (B) in accordance with ISO 26262 (with NAMUR)
Keypad 2PB 	BASIC	White LED	Red LED	n/a (hard-wired)	IP5K4	TYCO 1745000-3	Pushbutton	Diagnostic switching action for ASIL QM (B) in accordance with ISO 26262 (with NAMUR)

09 Numbering structure

Part number structure Rugged Keypads Modules

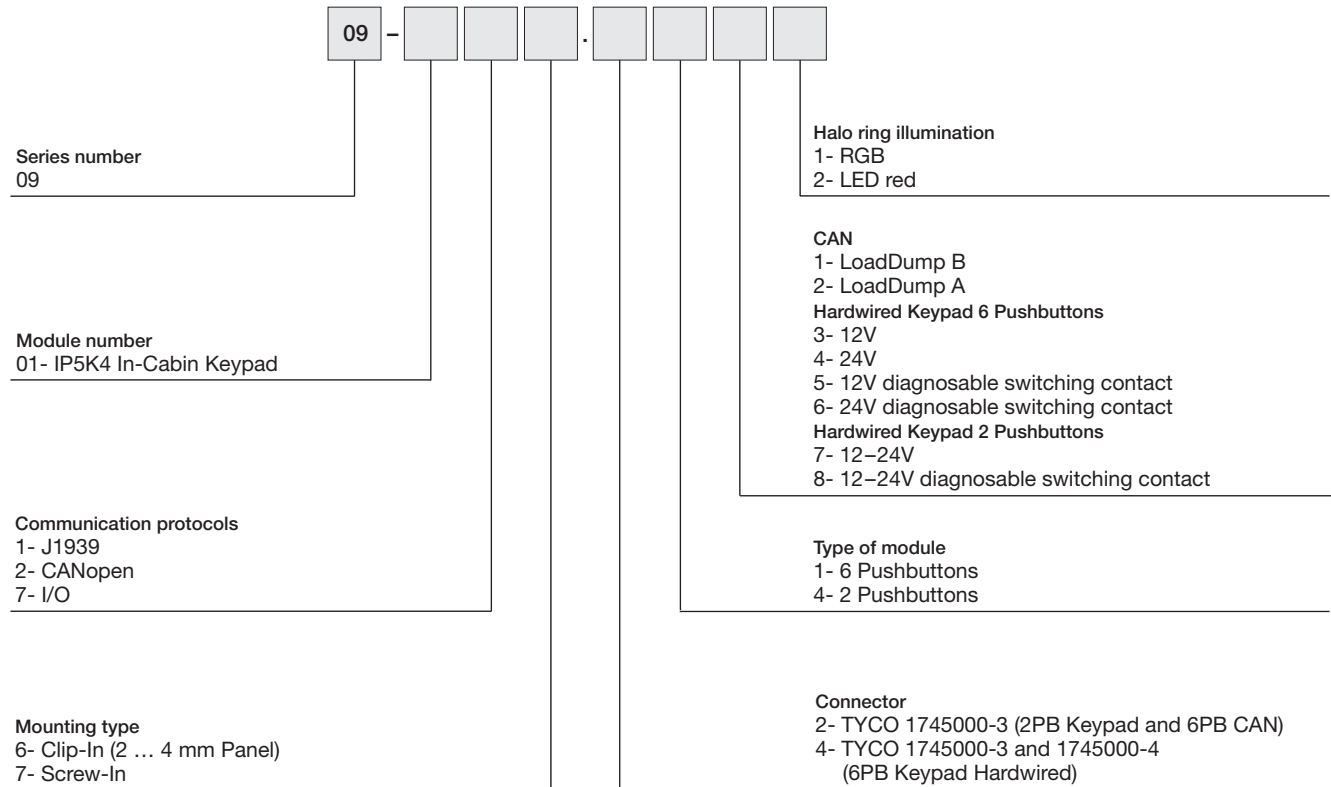
Part No. module (12 digits)



* available at a later date

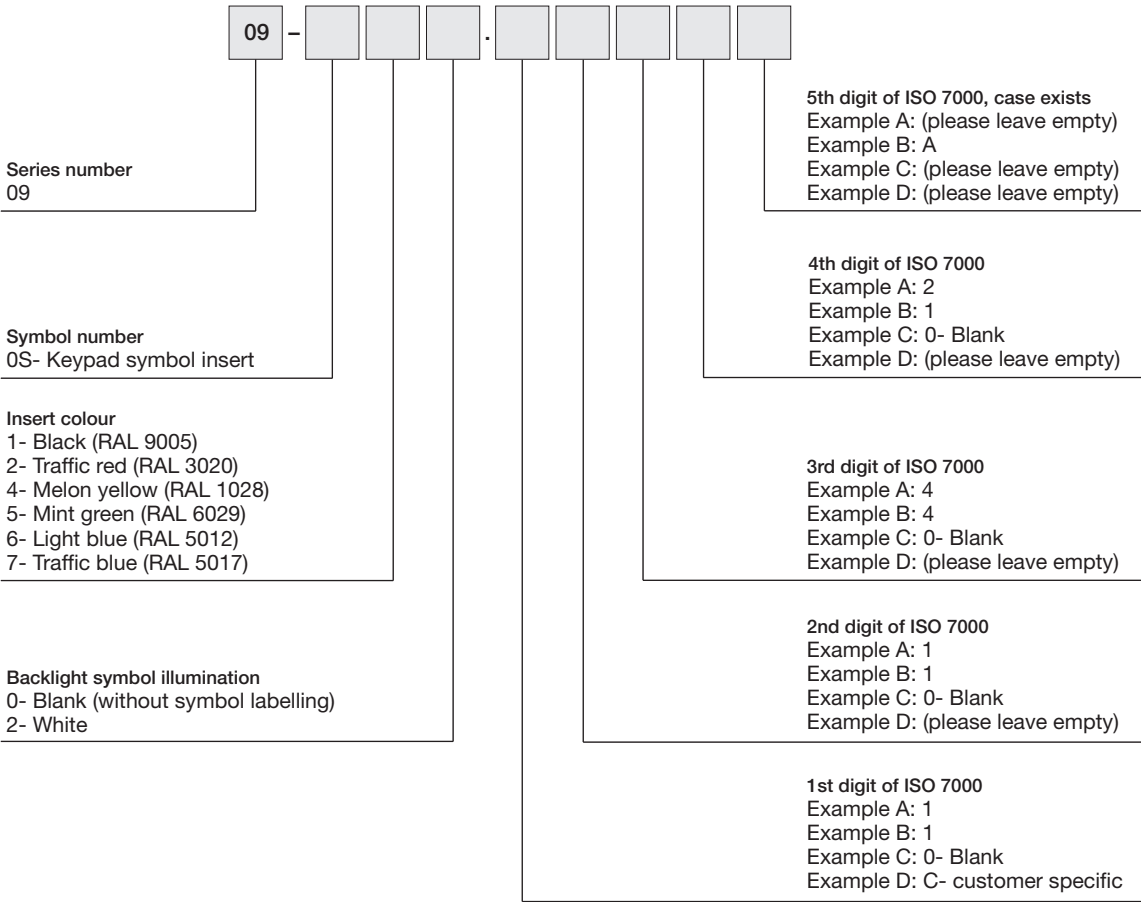
Part number structure In-Cabin Keypads Modules

Part No. module (12 digits)



09 Numbering structure

Part No. symbols



Keypad PREMIUM*



Mechanical characteristics

- Actuation force: approx. 6.5 N
- Overload: 250 N
- Mechanical lifetime: 250 000 cycles of operation (under specific conditions of functional safety)
- Impact resistance: IK07

Electrical characteristics

- Operating voltage range 8–32 VDC

Illumination

- Halo ring and symbol illumination can be configured independently
- LED symbol illumination
 - Colour: white
 - Luminance: max. approx. 20 cd/m², dimmable
- LED halo ring illumination with four freely configurable segments
 - Multi-colour: RGB
 - Luminance: approx. 1 500 cd/m²
 - Illumination: steady lighting, flashing, pulses, rotations, colour changes

Symbols

- Symbols in accordance with ISO 7000
- Customer-specific symbols on request

Connections/interfaces

- CAN interface (ISO 11898)
- CANopen Safety* (EN 50325-5),
- Baud rate 250 kBd and 500 kBd (software configurable)
- Connector Deutsch DT04-6P

Ambient conditions

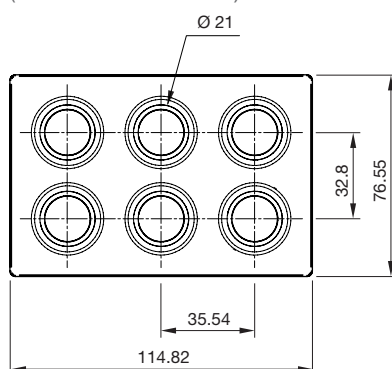
- Operating temperature: –40 °C ... +85 °C
- Storage temperature: –40 °C ... +85 °C

Protection degree

- IP6K7 (front and rear side)
- Up to IP6K7 (panel/screw-in)
- Up to IP5K4 (panel/clip-in)

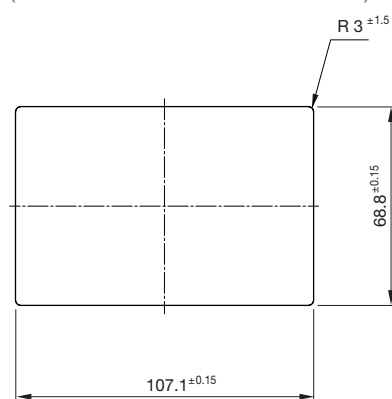
Dimensions

(All dimensions in mm)



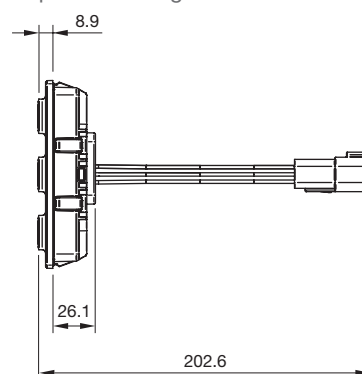
Mounting cut-out

(Panel thickness 1.0 mm ... 4.0 mm)

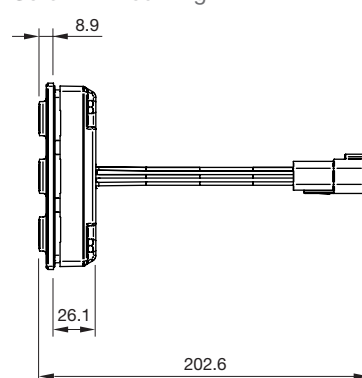


Mounting

Clip-in mounting



Screw-in mounting



* Information on the availability of the fully validated and certified product acc. to ASIL B ISO 26262 and PL d ISO 13849 with CANopen Safety can be found at: www.eao.com/09-status

09 Rugged Keypad Modules

Keypad SUPER



Mechanical characteristics

- Actuation force: approx. 6.5 N
- Overload: 250 N
- Mechanical lifetime: 250 000 cycles of operation (under specific conditions of functional safety)
- Impact resistance: IK07

Electrical characteristics

- Operating voltage range: 8–32 VDC

Illumination

- Halo ring and symbol illumination can be configured independently
- LED symbol illumination
 - Colour: white
 - Luminance: max. approx. 20 cd/m², dimmable
- LED halo ring illumination with four freely configurable segments
 - Multi-colour: RGB
 - Luminance: approx. 1 500 cd/m²
 - Illumination: steady lighting, flashing, pulses, rotations, colour changes

Symbols

- Symbols in accordance with ISO 7000
- Customer-specific symbols on request

Connections/interfaces

- CAN interface (ISO 11898)
- CAN protocols: CANopen (CiA 401), CAN J1939
- Baud rate 250 kBd and 500 kBd (software configurable)
- Connector Deutsch DT04-6P

Ambient conditions

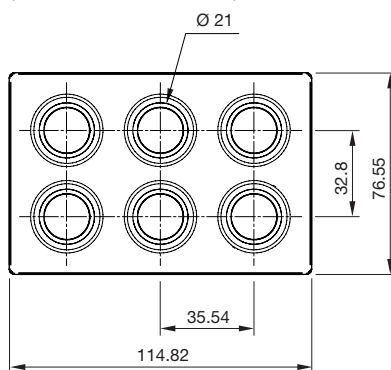
- Operating temperature: –40 °C ... +85 °C
- Storage temperature: –40 °C ... +85 °C

Protection degree

- IP6K7 (front and rear side)
- Up to IP6K7 (panel/screw-in)
- Up to IP5K4 (panel/clip-in)

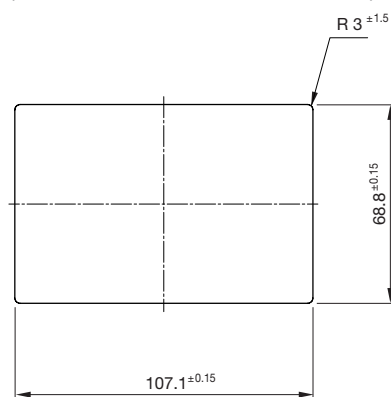
Dimensions

(All dimensions in mm)



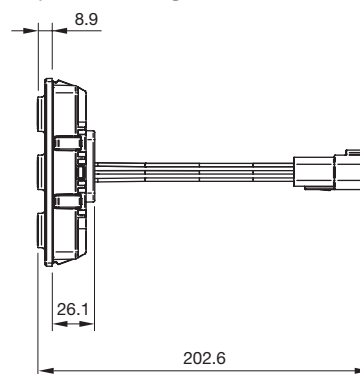
Mounting cut-out

(Panel thickness 1.0 mm ... 4.0 mm)

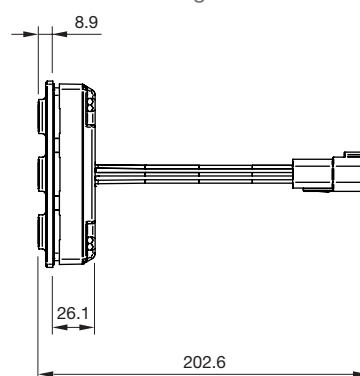


Mounting

Clip-in mounting



Screw-in mounting



Keypad PLUS



Mechanical characteristics

- Actuation force: approx. 6.5 N
- Overload: 250 N
- Mechanical lifetime: 250 000 cycles of operation (under specific conditions of functional safety)
- Impact resistance: IK07

Electrical characteristics

- Operating voltage range: 8–32 VDC

Illumination

- Halo ring and symbol illumination can be configured independently
- LED symbol illumination
 - Colour: white
 - Luminance: max. approx. 20 cd/m², dimmable
- LED halo ring illumination
 - Colour: red
 - (other colours on request)
 - Luminance: approx. 1 500 cd/m²

Symbols

- Symbols in accordance with ISO 7000
- Customer-specific symbols on request

Connections/interfaces

- CAN interface (ISO 11898)
- CAN protocols: CANopen (CiA 401), CAN J1939
- Baud rate 250 kBd and 500 kBd (software configurable)
- Connector Deutsch DT04-6P

Ambient conditions

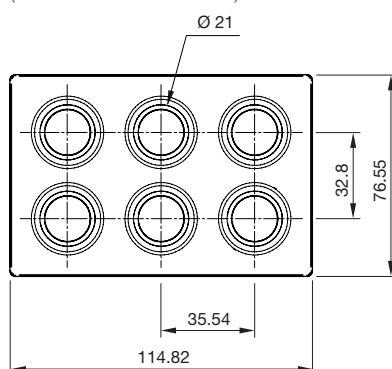
- Operating temperature: –40°C ... +85°C
- Storage temperature: –40°C ... +85°C

Protection degree

- IP6K7 (front and rear side)
- Up to IP6K7 (panel/screw-in)
- Up to IP5K4 (panel/clip-in)

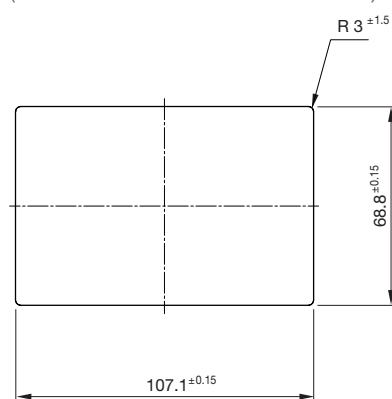
Dimensions

(All dimensions in mm)



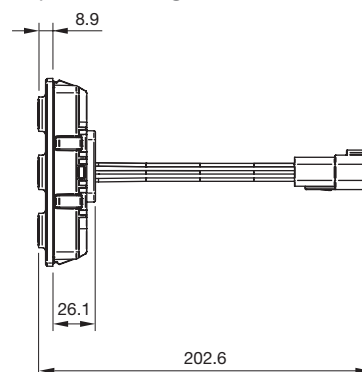
Mounting cut-out

(Panel thickness 1.0 mm ... 4.0 mm)

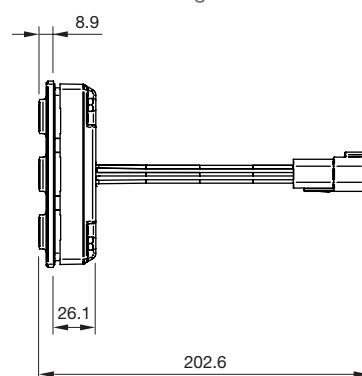


Mounting

Clip-in mounting



Screw-in mounting



09 Rugged Keypad Modules

Keypad BASIC



Mechanical characteristics

- Actuation force: approx. 6.5 N
- Overload: 250 N
- Mechanical lifetime: 250 000 cycles of operation (under specific conditions of functional safety)
- Impact resistance: IK07

Electrical characteristics

- 8–18 VDC or 18–32 VDC for operating voltage of the illumination for use in 12 V or 24 V applications. Optionally available with switch contacts with diagnostic capability

Illumination

- Halo ring and symbol illumination can be configured independently
- LED symbol illumination
 - Colour: white
 - Luminance: max. approx. 20 cd/m², dimmable
- LED halo ring illumination
 - Colour: red (other colours on request)
 - Luminance: approx. 750 cd/m²

Symbols

- Symbols in accordance with ISO 7000
- Customer-specific symbols on request

Connections/interfaces

- Connector: Würth Elektronik WR-MPC3, 16 Pins

Ambient conditions

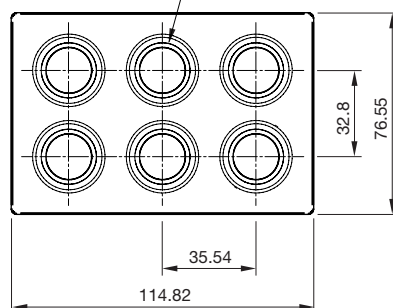
- Operating temperature: –40 °C ... +85 °C
- Storage temperature: –40 °C ... +85 °C

Protection degree

- IP6K7 (front side)
- IP20 (rear side)
- Up to IP6K7 (panel / screw-in)

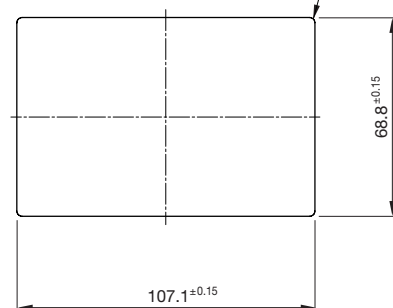
Dimensions

(All dimensions in mm)



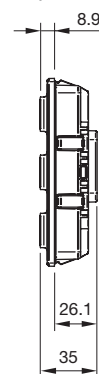
Mounting cut-out

(Panel thickness 1.0 mm ... 4.0 mm)

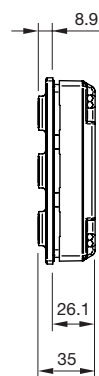


Mounting

Clip-in mounting

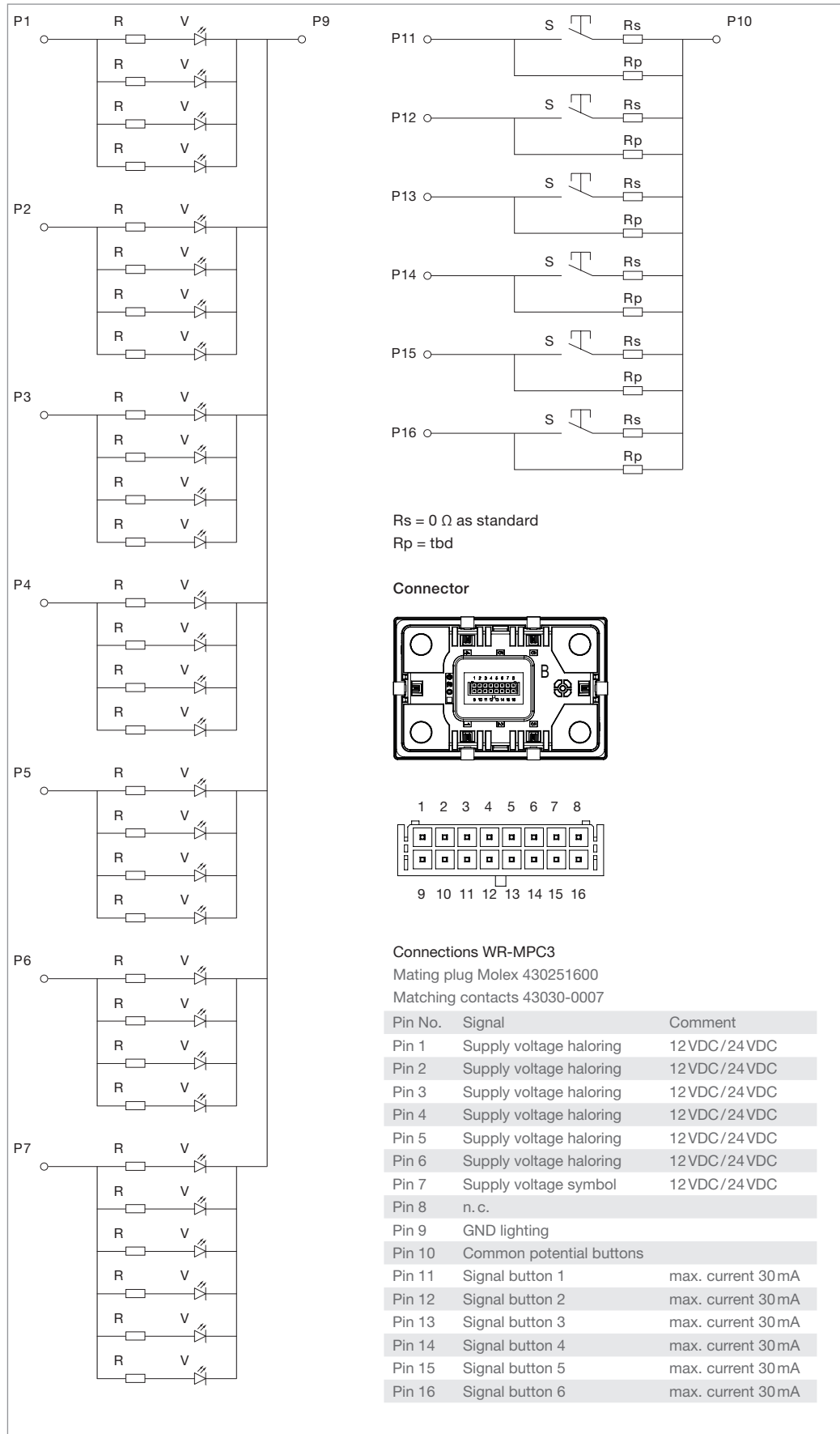


Screw-in mounting



Wiring diagram, connector

Wiring diagram



09 Rugged Keypad Modules

Rotary Cursor Controller PREMIUM*



Rotary Cursor Controller Functions

- Joystick functions
 - With proportional input
 - Digital input can be configured via CAN interface
- Rotary function
 - 20 maintained positions
 - Continuous rotation with no stop position
- Push function
 - Momentary action with click-dome

Mechanical characteristics

- Overload: 250N
- Actuation forces:
 - approx. 6.5 N pushbuttons
 - Turning the rotary cursor controller approx. 3 N
 - Pressing the rotary cursor controller approx. 11 N
- Mechanical lifetime:
 - 250 000 cycles of operation (under specific conditions of functional safety)
 - Joystick Rotary Cursor Controller: up to 3 million rotation cycles (60 million detents)
 - up to 1 million actuations (press)
 - Rotation function: Haptic with precise detent
 - Joystick function: operating angle ~ 5°

Electrical characteristics

- Operating voltage range: 8–32VDC

Illumination

- Halo ring and symbol illumination can be configured independently of each other
- LED symbol illumination
 - Color: white
 - Luminance: max. approx. 20cd/m² (dimnable)
- LED halo ring illumination with four freely configurable segments
 - Multi-color: RGB
 - Luminance: approx. 1500cd/m² (pushbutton)
- Illumination: steady lighting, flashing, pulses, rotations, colour changes

Symbols (on pushbuttons, RCC without symbol)

- Symbols in accordance with ISO 7000
- Customer-specific symbols on request

Connectivity

- CAN interface (ISO 11898)
- CANopen Safety* (EN 50325-5),
- Baud rate 250 kBd and 500 kBd (software configurable)
- Connector Deutsch DT04-6P

Ambient conditions

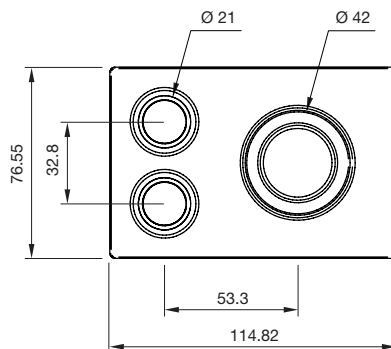
- Operating temperature
 - 40°C ... +85°C
- Storage temperature
 - 40°C ... +85°C

Protection degree

- IP6K7 (front and rear side)
- Up to IP6K7 (panel/screw-in)
- Up to IP5K4 (panel/clip-in)

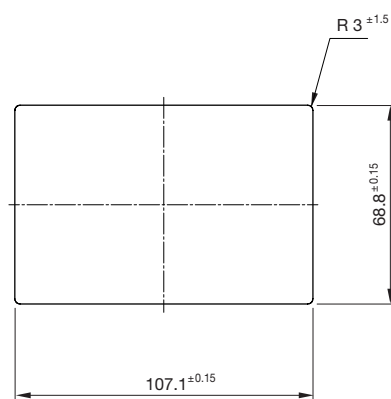
Abmessungen

(Alle Abmessungen in mm)



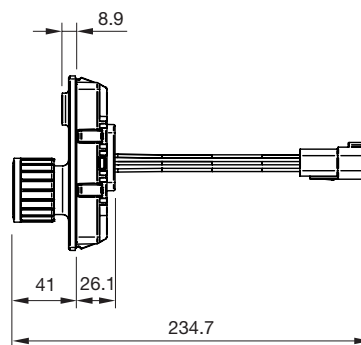
Einbauöffnungen

(Paneldicke 1,0 mm ... 4,0 mm)

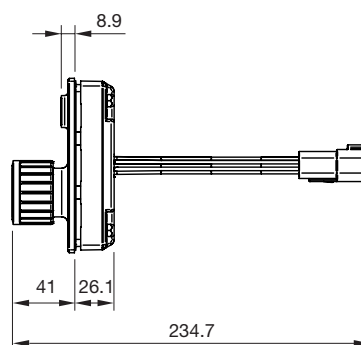


Montage

Einrastbefestigung



Schraubbefestigung



Rotary Cursor Controller SUPER



Rotary Cursor Controller Functions

- Joystick function
 - With proportional input
 - Digital input can be configured via CAN interface
- Rotary function
 - 20 maintained positions
 - Continuous rotation with no stop position
- Push function
 - Momentary action with click-dome

Mechanical characteristics

- Overload: 250N
- Actuation forces:
 - approx. 6.5N pushbuttons
 - Turning the rotary cursor controller approx. 3N
 - Pressing the rotary cursor controller approx. 11N
- Mechanical lifetime:
 - Pushbutton: up to 7 million cycles of operation (under ideal conditions)
 - Joystick Rotary Cursor Controller: up to 3 million rotation cycles (60 million detents)
 - up to 1 million actuations (press)
 - Rotation function: Haptic with precise detent
 - Joystick function: operating angle ~ 5°

Electrical characteristics

- Operating voltage range: 8–32VDC

Illumination

- Halo ring and symbol illumination can be configured independently of each other
- LED symbol illumination
 - Color: white
 - Luminance: max. approx. 20cd/m² (dimable)
- LED halo ring illumination with four freely configurable segments
 - Multi-color: RGB
 - Luminance: approx. 1500cd/m² (pushbutton)
- Illumination: steady lighting, flashing, pulses, rotations, colour changes

Symbols (on pushbuttons, RCC without symbol)

- Symbols in accordance with ISO 7000
- Customer-specific symbols on request

Connectivity

- CAN interface (ISO 11898)
- CAN protocols: CANopen (CiA 401), CAN J1939
- Baud rate 250kBd and 500kBd (software configurable)
- Connector Deutsch DT04-6P

Ambient conditions

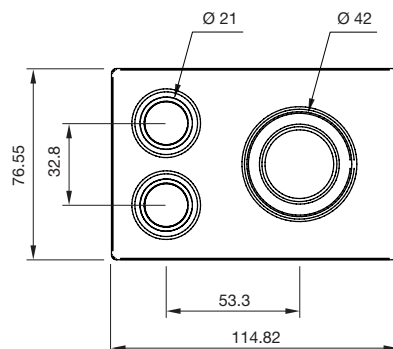
- Operating temperature: –40°C ... +85°C
- Storage temperature: –40°C ... +85°C

Protection degree

- IP6K7 (front and rear side)
- Up to IP6K7 (panel/screw-in)
- Up to IP5K4 (panel/clip-in)

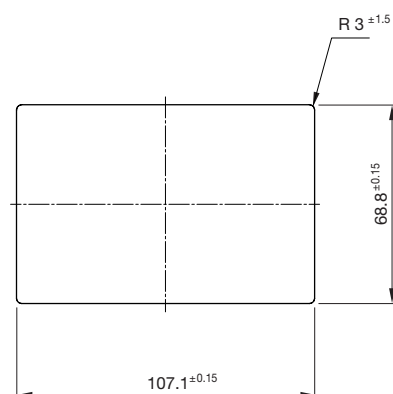
Dimensions

(All dimensions in mm)



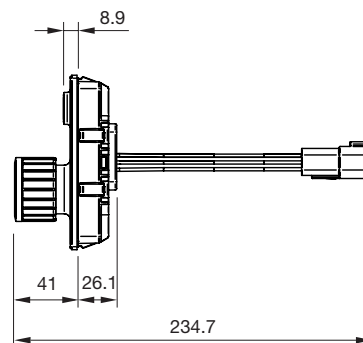
Mounting cut-out

(Panel thickness 1.0 mm ... 4.0 mm)

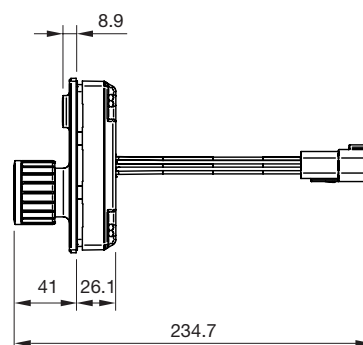


Mounting

Clip-in mounting



Screw-in mounting



09 Rugged Keypad Modules

Rotary Cursor Controller PLUS



Rotary Cursor Controller Functions

- Joystick function
 - With proportional input
 - Digital input can be configured via CAN interface
- Rotary function
 - 20 maintained positions
 - Continuous rotation with no stop position
- Push function
 - Momentary action with click-dome

Mechanical characteristics

- Overload: 250N
- Actuation forces:
 - approx. 6.5 N pushbuttons
 - Turning the rotary cursor controller approx. 3 N
 - Pressing the rotary cursor controller approx. 11 N
- Mechanical lifetime:
 - Pushbutton: up to 7 million cycles of operation (under ideal conditions)
 - Joystick Rotary Cursor Controller: up to 3 million rotation cycles (60 million detents)
 - up to 1 million actuations (press)
 - Rotation function: Haptic with precise detent
 - Joystick function: operating angle $\sim 5^\circ$

Electrical characteristics

- Operating voltage range: 8–32 VDC

Illumination

- Halo ring and symbol illumination can be configured independently
- LED symbol illumination
 - Colour: white
 - Luminance: max. approx. 20 cd/m², dimmable
- LED halo ring illumination
 - Colour: red
 - (other colours on request)
 - Luminance: approx. 1500 cd/m²

Symbols (on pushbuttons, RCC without symbol)

- Symbols in accordance with ISO 7000
- Customer-specific symbols on request

Connectivity

- CAN interface (ISO 11898)
- CAN protocols: CANopen (CiA 401), CAN J1939
- Baud rate 250 kBd and 500 kBd (software configurable)
- Connector Deutsch DT04-6P

Ambient conditions

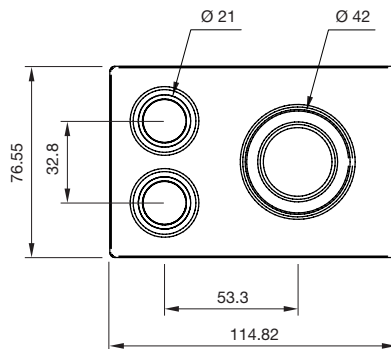
- Operating temperature: $-40^\circ\text{C} \dots +85^\circ\text{C}$
- Storage temperature: $-40^\circ\text{C} \dots +85^\circ\text{C}$

Protection degree

- IP6K7 (front and rear side)
- Up to IP6K7 (panel/screw-in)
- Up to IP5K4 (panel/clip-in)

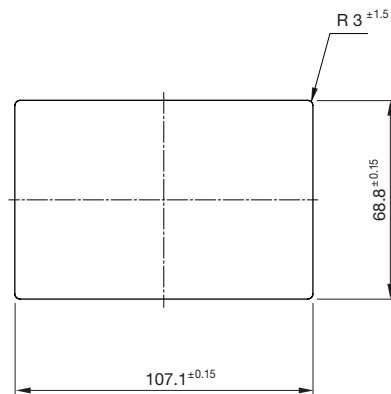
Dimensions

(All dimensions in mm)



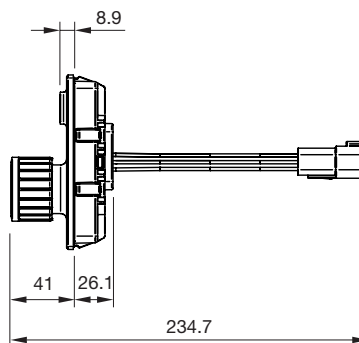
Mounting cut-out

(Panel thickness 1.0 mm ... 4.0 mm)

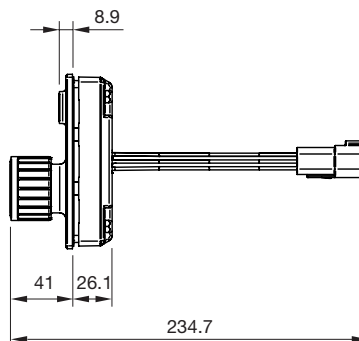


Mounting

Clip-in mounting



Screw-in mounting



6-pushbutton Keypad SUPER



Mechanical characteristics

- Actuating force: approx. 6 N
- Overload force: 250 N
- Lifecycle: up to 250 000 cycles of operation
- Impact resistance: IEC 62262 IK07

Electrical characteristics

- Operating voltage range 8-32 VDC LoadDump A or B

Illumination

- Halo-ring and symbol illumination can be configured independently of one another
- Halo-ring effects: flashing, pulsing, colour change
- LED symbol illumination
 - Colour: white
 - Luminance: approx. 20 cd/m² (dimnable)
- LED halo-ring illumination
 - Colour: multi-colour RGB
 - Luminance: approx. 500 cd/m² (dimnable*)

*depending on the respective colour

Symbols

- Symbols in accordance with ISO 7000
- Customer-specific symbols on request

Connections/interfaces

- CAN interface (ISO 11898)
- CAN protocols: CANOpen (CiA 401), CAN J1939
- Baud rate 125, 250, 500, 1000 kBit/s (configurable through software)
- Integrated plug recess, compatible with TE 8P-1745000-3

Protection degree

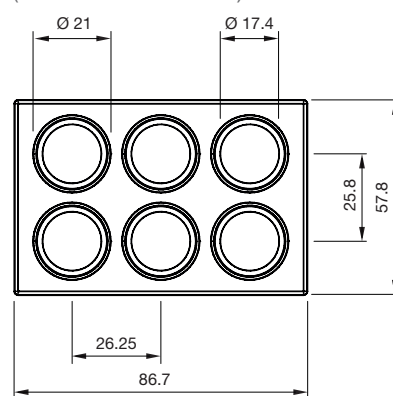
- IP5K4 in accordance with ISO 20653 (front side in installed state)
- IP20 in accordance with ISO 20653 (rear side)

Ambient conditions

- Operating temperature -40°C ... +85°C
- Storage temperature -40°C ... +85°C

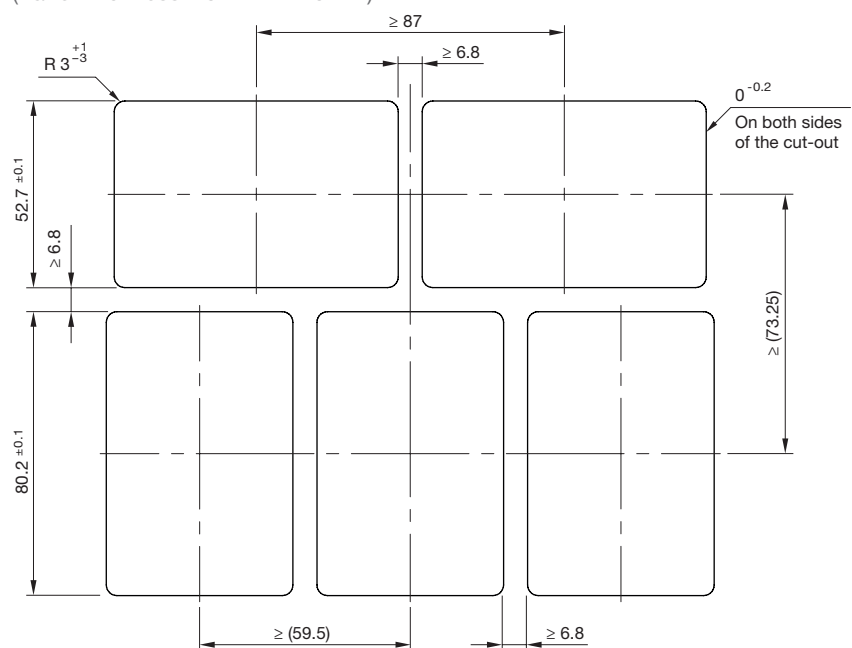
Dimensions

(All dimensions in mm)



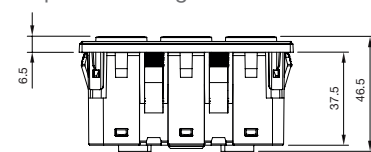
Mounting cut-out

(Panel thickness 1.0 mm ... 4.0 mm)

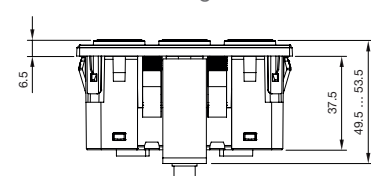


Mounting

Clip-in mounting



Screw-in mounting



The keypad can be mounted into front plate thicknesses between 1 and 4 mm. A front plate of at least 2 mm thickness is recommended. Non-compliance with these specifications may lead to damage to the locking tongue.

09 In-Cabin Keypad Modules

6-pushbutton Keypad PLUS



Mechanical characteristics

- Actuating force: approx. 6 N
- Overload force: 250 N
- Lifecycle: up to 250 000 cycles of operation
- Impact resistance: IEC 62262 IK07

Electrical characteristics

- Operating voltage range 8-32 VDC
LoadDump A or B

Illumination

- Halo-ring and symbol illumination can be configured independently of one another
- Halo-ring effects: flashing, pulsing, colour change
- LED symbol illumination
 - Colour: white
 - Luminance: approx. 20 cd/m² (dimnable)
- LED halo-ring illumination
 - Colour: red (other colours on request)
 - Luminance: approx. 500 cd/m² (dimnable)

Symbols

- Symbols in accordance with ISO 7000
- Customer-specific symbols on request

Connections/interfaces

- CAN interface (ISO 11898)
- CAN protocols: CANOpen (CiA 401), CAN J1939
- Baud rate 125, 250, 500, 1000kBit/s (configurable through software)
- Integrated plug recess, compatible with TE 8P-1745000-3

Protection degree

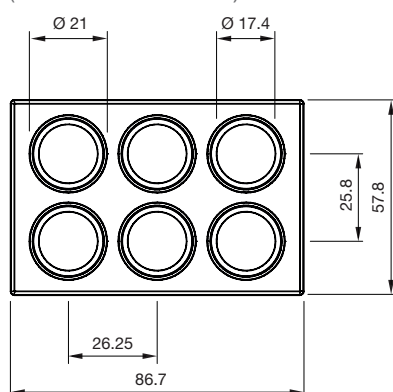
- IP5K4 in accordance with ISO 20653 (front side in installed state)
- IP20 in accordance with ISO 20653 (rear side)

Ambient conditions

- Operating temperature
-40°C ... +85°C
- Storage temperature -40°C ... +85°C

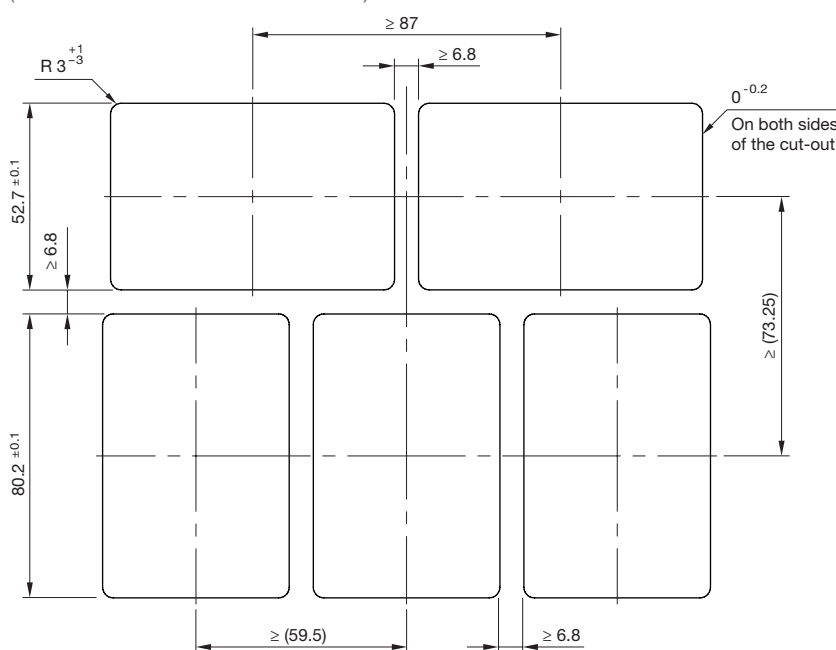
Dimensions

(All dimensions in mm)



Mounting cut-out

(Panel thickness 1.0 mm ... 4.0 mm)

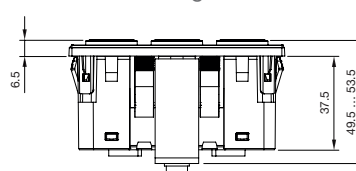


Mounting

Clip-in mounting



Screw-in mounting



The keypad can be mounted into front plate thicknesses between 1 and 4 mm. A front plate of at least 2 mm thickness is recommended. Non-compliance with these specifications may lead to damage to the locking tongue.

6-pushbutton Keypad BASIC



Mechanical characteristics

- Actuating force: approx. 6 N
- Overload force: 250 N
- Lifecycle: up to 250 000 cycles of operation
- Impact resistance: IEC 62262 IK07

Electrical characteristics

- Operating voltage range: 8 – 18 VDC or 18 – 32 VDC
Operating voltage of illumination for use in 12 V or 24 V applications.
Available with the option of diagnostic switching contacts
- Max. power: 1 W (without NAMUR)
0.25 W (with NAMUR)
- Max. current: 30 mA
- Min. current: 2 mA
- Max. voltage: 32 V
- Contact resistance (unactuated): > 2 M Ω (without NAMUR)
1 k Ω \pm 4 % (with NAMUR)
- Contact resistance (actuated): < 10 Ω (without NAMUR)
110 Ω \pm 10 Ω (with NAMUR)

Illumination

- Halo-ring and symbol illumination can be configured independently of one another
- LED symbol illumination
 - Colour: white
 - Luminance: approx. 20 cd/m² (dimnable)
- LED halo-ring illumination
 - Colour: red (other colours on request)
 - Luminance: approx. 500 cd/m² (dimnable)

Symbols

- Symbols in accordance with ISO 7000
- Customer-specific symbols on request

Connections/interfaces

- Integrated plug recess, compatible with TE 8P-1745000-3/8P-1745000-4, 8-pin

Protection degree

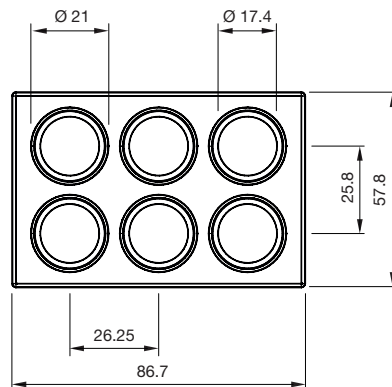
- IP5K4 in accordance with ISO 20653 (front side in installed state)
- IP20 in accordance with ISO 20653 (rear side)

Ambient conditions

- Operating temperature –40 °C ... +85 °C
- Storage temperature –40 °C ... +85 °C

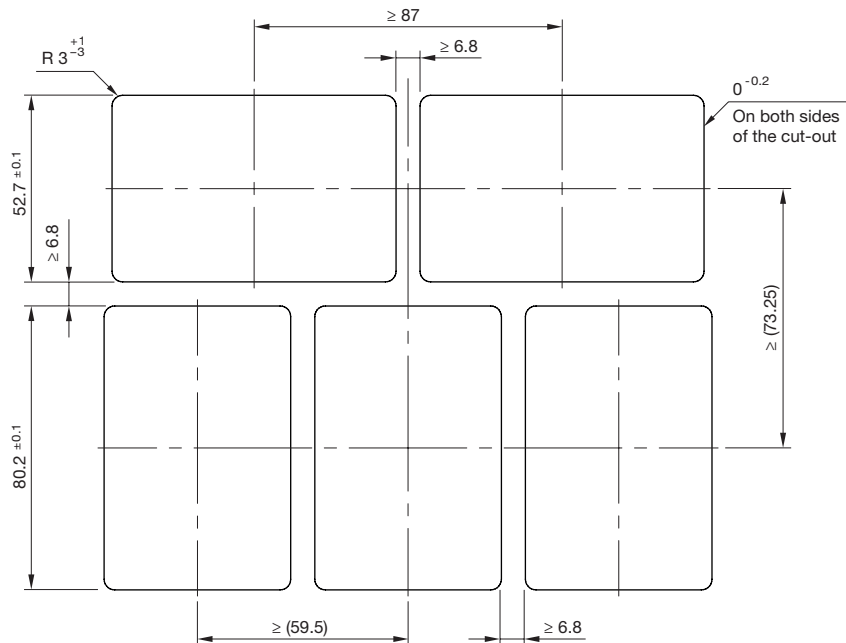
Dimensions

(All dimensions in mm)



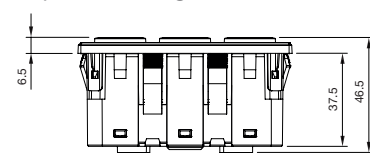
Mounting cut-out

(Panel thickness 1.0 mm ... 4.0 mm)

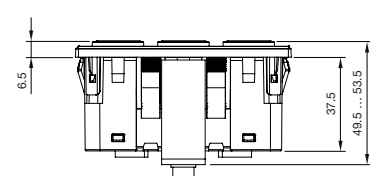


Mounting

Clip-in mounting



Screw-in mounting



The keypad can be mounted into front plate thicknesses between 1 and 4 mm. A front plate of at least 2 mm thickness is recommended. Non-compliance with these specifications may lead to damage to the locking tongue.

09 In-Cabin Keypad Modules

2-pushbutton Keypad BASIC



Mechanical characteristics

- Actuating force: approx. 6 N
- Overload force: 250 N
- Lifecycle: up to 250 000 cycles of operation
- Impact resistance: IEC 62262 IK07

Electrical characteristics

- Operating voltage range 8 – 32 VDC
Available with the option of diagnostic switching contacts (NAMUR)
- Max. power:
1 W (without NAMUR)
0.25 W (with NAMUR)
- Max. current:
30 mA
- Min. current:
2 mA
- Max. voltage:
32 V
- Contact resistance (unactuated):
> 2 MΩ (without NAMUR)
1 kΩ ± 4 % (with NAMUR)
- Contact resistance (actuated):
< 10 Ω (without NAMUR)
110 Ω ± 10 Ω (with NAMUR)

Illumination

- Halo-ring and symbol illumination can be configured independently of one another
- LED symbol illumination
 - Colour: white
 - Luminance: approx. 20 cd/m² (dimmable)
- LED halo-ring illumination
 - Colour: red (other colours on request)
 - Luminance: approx. 500 cd/m² (dimmable)

Symbols

- Symbols in accordance with ISO 7000
- Customer-specific symbols on request

Connections/interfaces

- Integrated plug recess, compatible with TE 8P-1745000-3/8P-1745000-4, 8-pin

Protection degree

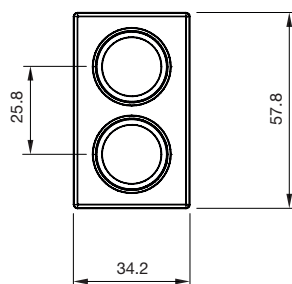
- IP5K4 in accordance with ISO 20653 (front side in installed state)
- IP20 in accordance with ISO 20653 (rear side)

Ambient conditions

- Operating temperature
–40 °C ... +85 °C
- Storage temperature
–40 °C ... +85 °C

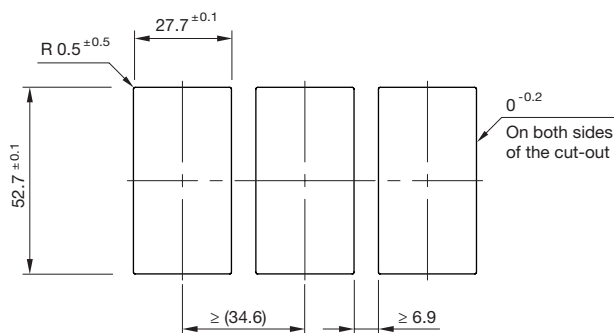
Dimensions

(All dimensions in mm)



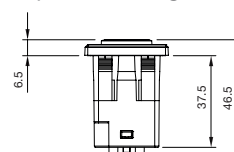
Mounting cut-out

(Panel thickness 1.0 mm ... 4.0 mm)

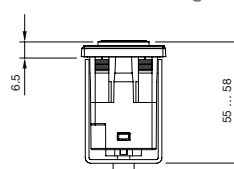


Mounting

Clip-in mounting



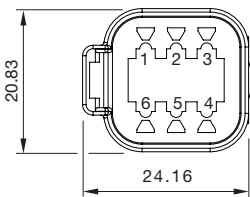
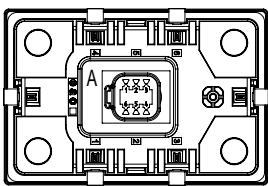
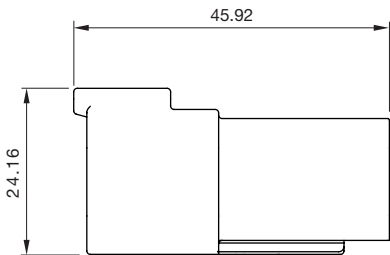
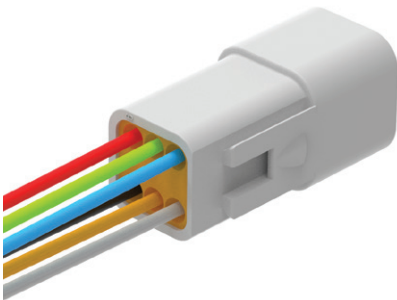
Screw-in mounting



The keypad can be mounted into front plate thicknesses between 1 and 4 mm. A front plate of at least 2 mm thickness is recommended. Non-compliance with these specifications may lead to damage to the locking tongue.

Accessories

Deutsch DT Series connector (DT04-6P)



Connector 6 – DT (DT04-6P)

Mating plug Deutsch DT06-6S
Matching contacts e.g. 1062-16-0122
Matching wedge W6-S

Pin Nr.	Signal	Wire colour	Comment
Pin 1	GND	Black	
Pin 2	CAN High	Yellow	
Pin 3	WakeUp_Out	Grey	
Pin 4	WakeUp_In	Blue	
Pin 5	CAN Low	Green	
Pin 6	Vcc		8 – 32VDC

All dimensions in mm.

Symbol inserts



Tool for legends



The new symbol insert tool with trendy design enables user-friendly fitting and removal of symbol inserts from the keypad. The round tip layout without edges prevents from damage of the keypad and symbol inserts. The ergonomically adjusted surface with balance point in the middle offers optimal handling.



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