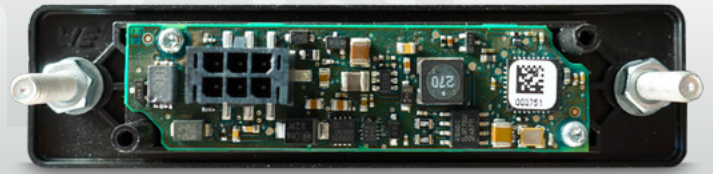# LED Symbol Cluster

Intelligent HMI Solutions from Würth Elektronik ICS

WÜRTH ELEKTRONIK

6 Way Symbol Cluster CAN

The **6 Way Symbol Cluster CAN** is a compact and easy to install symbol cluster with customisable front-end design developed by Würth Elektronik ICS.

The module offers 6 LEDs, a digital ‚low side' output and a digital input, all are freely addressable from the CAN bus. **Thanks to the use of polyester membrane as front layer, the symbols and colors can be customized, on demand.**

Applications

- Add-on features indicators
- Standard symbol cluster based on CAN communication
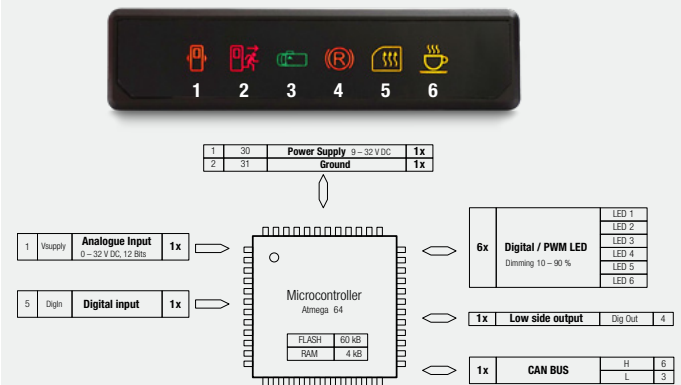- Vehicle functions visualization

Technical data

General information

Connector	Micro Fit 6 Ways MPC3
Dimensions	24 x 97 x 20 mm
Weight	21 g
Operating temperature	-30 °C to 80 °C
Storage temperature	-40 °C to 85 °C
Ingress protection	Front face IP54 / rear IP00
Operating voltage	8 V to 32 VDC
Pre-fusing	1 A (recommended)
Current consumption	All LEDs off: 25 mA All LEDs on: 100 mA
Controller type	Automotive

CAN Bus

acc. ISO 11898-2	High speed
acc. CAN 2.0B	29 Bits extended address identifier
acc. CAN 2.0A	11 Bits address identifier
Reserved IDs (UDS)	0x7DF, 0x7E0 & 0x7E8 (configurable)
Baud rate	100 / 125 / 250 / 500 / 1000 kbps default setting: 500 kbps

Inputs / outputs overview

1	Digital input	Digital input high active
1	V supply monitoring	Analogue input for measuring supply voltage
1	Digital output	Low side output

LED position / Hardware map

Inputs / outputs details

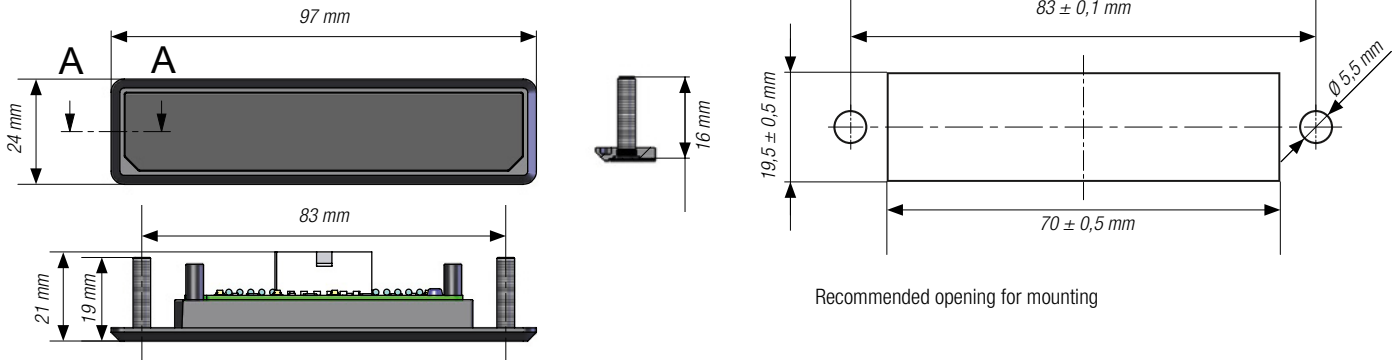| Digital input	
Input voltage	up to Vsupply
Switch-on level	> 7.5 VDC
Switch-off level	< 4 VDC
Input resistance	> 60 kΩ
Vsupply measurement	
Voltage range	0 – 33 V (see op. volt.)
Digital output	**Low Side**
Load current	Max 2 W / 150 mA
Active residual voltage	1.1 VDC Reverse polarity protected
LED dimming	
PWM frequency	1 kHz
Duty cycle	10 % to 90 %
Adjustment steps	10 %

Standard Compliances

ECE-R10 R.05	E1 10R-05 8351
ISO-7637-1to -3	Passed (restart)
ISO-16750-1to -5	Passed (restart)
ISO-10605	Cat 2 (±8 kV) Passed

LED Symbol Cluster

Intelligent HMI Solutions from Würth Elektronik ICS

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Dimensions

97 mm

24 mm

A   A

83 mm

21 mm   19 mm

16 mm

83 ± 0,1 mm

19,5 ± 0,5 mm

Ø 5,5 mm

70 ± 0,5 mm

Recommended opening for mounting

Features and configuration tool

With the help of our WE Flasher tool you can configure your 6 Way Symbol Cluster CAN. Following features are available in the standard application:

Foil and Icons creation

The 6 Way Symbol Cluster CAN is using a white LED to illuminate a colored foil. The icons and colors can be defined individually based on your drawings or on our icon library, which is based on ISO 2575.

Configurable features

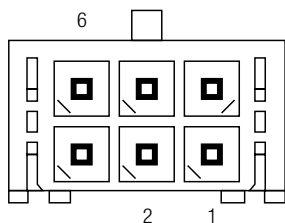| Boot up behavior	All LED's get turned on for 2 seconds, or there is no activation at startup.
CAN timeout handler	Either not activated (the device keeps the last received orders), or it is based on CAN traffic (specific / global). On CAN loss, the LEDs are either turned off, or are flashing with a 2 Hz frequency. Timeout parameter can be set up to 65 seconds.
Supply voltage	The value of the supply voltage can be sent on the CAN bus over 2 bytes. This feature can be activated on a configurable frame and byte position, or deactivated.
Digital input broadcast	The status can either be broadcasted over a configurable CAN frame or deactivated.
LED dimming	One LED dimming value can be set between 10 % and 90 % and activated through a configurable CAN command.
LED activation	Each LED can be activated through a configurable CAN message, where the digital information can be set independently (independent frame for every LED possible).
All digital CAN information are based on the J1939 2 bits logic (00 : Off, 01 : On, 10 and 11 : N/A or do nothing)	

Pin assignment

X1 Connector

PIN	Description	Function
1	KL30	Power supply 8 – 32 V
2	GND	Ground
3	CAN L	CAN low
4	Dig Out	Open drain output 150 mA / 2 W
5	Dig In	Digital input
6	CAN H	CAN high

Mating connectors	Würth Elektronik eiSos Part Number
6 pins WR-MPC3 3.00 mm Female Dual Row Receptacle	662006113322
WR-MPC3 3.00 mm Female Crimp Contact AWG 20-24	66200113722
WR-MPC3 3.00 mm Female Crimp Contact AWG 26-30	66200413722

For 100 pieces packages, please add "DEC" at the end of the reference.

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2   1

6 Way Symbol Cluster CAN – Demo version

For more information visit us at www.we-online.com or call +49 7940 9810-0.

Order information

Available references	Part number WE ICS
6 Way Symbol Cluster CAN – Demo version	F80838
6 Way Symbol Cluster CAN – Customised with specific symbols	on demand