



# ADAS Measurement System (MI4)

## Concept, coordinate, validate

Continental Engineering Services (CES) is an independent operating provider of a comprehensive range of engineering services and has access within Continental to Advanced Driver Assistance Systems (ADAS).

Therefore, our engineers are able to provide the complete range of application and validation services for ADAS Sensor Systems - beginning with sensors and test equipment, test setup and execution, data management and evaluation up to documentation and homologation.



### ADAS Measurement System: setup and testing

- › Planing and organisation
- › Development and setup of test equipment /systems for automated testing procedures
- › Vehicle integration for ADAS components and systems
- › Software configuration
- › Execution of testing and endurance runs
- › Data recording and data logistics
- › Calibration and evaluation
- › Visualization and documentation

### Test equipment and service

#### Basic package

- › MI4 measurement system with basic software
- › Instruction manual

#### Optional packages

- › Software setup and configuration
- › Customer specific software adaption
- › Training
- › Hotline / software support

## Technical Specification

|                          |  |
|--------------------------|--|
| <b>Type</b>              | <b>MI4 FO1/ FO2</b>                      |
| <b>Input Voltage</b>     | 9-19 V DC, no buffering of engine cracks |
| <b>Input Power</b>       | 90 W at 100% CPU load                    |
| <b>Temperature Range</b> |  |
| - Operating              | -20°C to +50°C                           |
| - Storage                | -40°C to +80°C                           |
| <b>Humidity</b>          |  |
| - Operating              | 20% to 80% RH                            |
| - Storage                | 10% to 90% RH                            |
| <b>Size</b>              |  |
| - without Rubber Buttons | W 331 x H 75 x D 268 mm                  |
| - with Rubber Buttons    | W 333 x H 93 x D 268 mm                  |

## MI4 Case



MI4 Case - Front Panel

- All connectors on front panel
- Some space for the connectors in front of the MI4 needs to be considered
- The ventilation holes on the back Panel must not be covered

## Power Supply (optionally used with MI4)

|                            |                |
|----------------------------|----------------|
| <b>Type</b>                | Travla 90 W    |
| <b>Input Voltage</b>       | 90 to 264 V    |
| <b>VAC Input Frequency</b> | 47 to 63 Hz    |
| <b>Efficiency</b>          | ≥ 87%          |
| <b>Temperature Range</b>   |                |
| - Operating                | 0°C to +40°C   |
| - Storage                  | -20°C to +60°C |
| <b>Humidity</b>            |                |
| - Operating                | 20% to 80% RH  |
| - Storage                  | 10% to 80% RH  |
| <b>Hold-Up Time</b>        | ≥ 5ms          |

## MI4 Connectors Overview

| Function                 | Socket Type (MI4)                       | Key | Plug Type (Harness side)  |
|--------------------------|---|-----|---|
| <b>Power</b>             | Lemo EXG.1B.306.HLN                     | G   | Lemo (red)<br>FGG.1B.306.CLAD62ZR   |
| <b>Ctrl. CAN</b>         | Lemo EXA.1B.305.HLN                     | A   | Lemo (grey)<br>FGA.1B.305.CLAD52ZG  |
| <b>RS485 Sync.</b>       | Lemo EXG.1B.303.HLN                     | B   | Lemo (white)<br>FGG.1B.303.CLAD42ZB   |
| <b>Digital I/O</b>       | Lemo EXA.1B.306.HLN                     | A   | Lemo (yellow)<br>FGA.1B.306.CLAD62ZJ  |
| <b>HMI-USB</b>           | Lemo EXG.1B.304.HLN                     | G   | Lemo (blue)<br>FGG.1B.304.CLAD52ZA  |
| <b>Vector HW Sync.</b>   | Binder 09 0077 00 03                    |     | Binder connector type: 99 0075 100 03   |
|                          | Farnell 1122346                         |     | Farnell 1122333   |
| <b>VGA</b>               | 15 pol. Sub-D female socket             |     | VGA is optional   |
| <b>USB</b>               | 2 x USB Typ A socket                    |     | 2 x USB is optional   |
| <b>LVDS 160MBit/s</b>    | RJ45 - 1Gbit                            |     | Use CAT 6 SSTP cables up to 10m max.  |
| <b>LVDS 320MBit/s</b>    | RJ45 - 10Gbit Harting Push-Pull V4      |     | Use CAT 6EA SSTP cables up to 10m max.  |
| <b>CameraLink Output</b> | 2 x SDR26 socket from 3M                |     | Shrink Delta Ribbon socket SDR26  |
| <b>PMC No. 1</b>         | Extension slot for a PMC extension card |     | Used for a Eberspächer FlexCard PMC2 to connect FlexRay / CAN use a Binder connector Series 712, type 99 0425 00 08 |
| <b>PMC No. 2</b>         | Extension slot for a PMC extension card |     |   |
| <b>IEEE 1588</b>         | RJ45                                    |     | Standard for synchronization with other IEEE1588 devices. Cannot be used for data transmission                      |
| <b>Config. LAN</b>       | RJ45                                    |     | LAN 1Gbit for configuration and visualization   |
| <b>Trigger LAN</b>       | RJ45                                    |     | LAN 1Gbit to exchange enhanced trigger information with other devices (MBtech)                                      |
| <b>eSATA 2x</b>          | eSATA                                   |     | Due to that this connection has no integrated strain relief you can use a zip tie                                   |
| <b>PCIe x 1 external</b> | Molex 74960-3018                        |     |   |
| <b>PCIe x4 external</b>  | Molex 74540-0500                        |     | To deploy data to a Second-Box-PC   |
| <b>GPS Antenna</b>       | SMA socket                              |     | Antenna Navilock Art. No. 60502   |
| <b>WLAN Antenna</b>      | RP-SMA                                  |     | RP-SMA for a WLAN antenna   |

