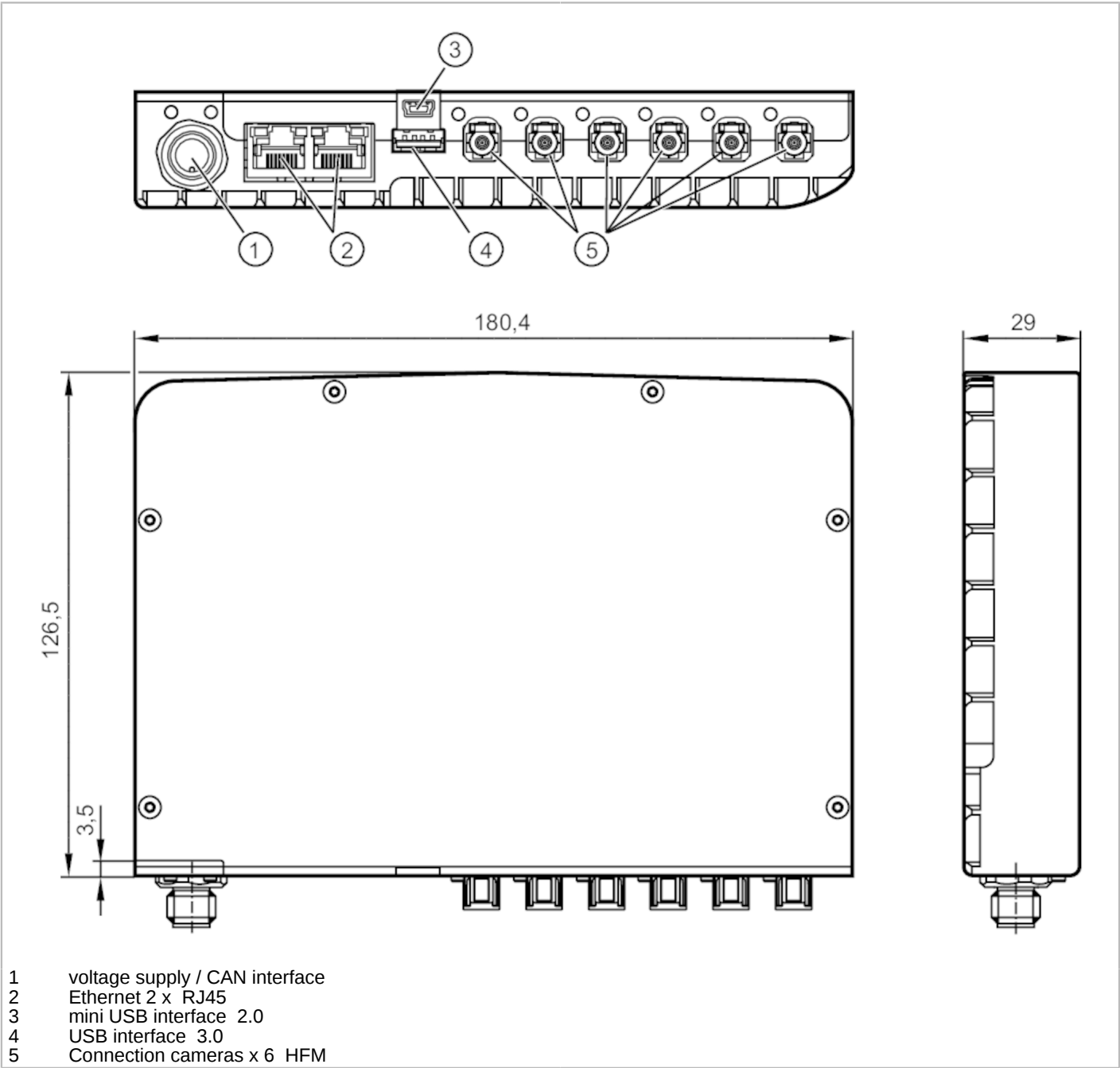


OVP810



Video processing unit (VPU)

OVPAAR0/E0/E1/TX2NX/4GB



| Application              |      |                                                                                                                                                |
|--------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Application              |      | Vision sensors                                                                                                                                 |
| Electrical data          |      |                                                                                                                                                |
| Operating voltage        | [V]  | 19.2...28.8 DC                                                                                                                                 |
| Max. current consumption | [mA] | 1100+n* (630/20) * FPS; n = number of cameras; FPS = camera frame rate                                                                         |
| Power consumption        | [W]  | 10,8 +(n* (9,36/20) *FPS; typical n = 3 ; the voltage and power supply are provided by the VPU and are therefore listed in the VPU data sheet. |
| Interfaces               |      |                                                                                                                                                |
| Number of CAN interfaces |      | 1                                                                                                                                              |

# OVP810



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|                               |                                                                                                                                                                                    |                                                                                       |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Number of Ethernet interfaces | 2                                                                                                                                                                                  |                                                                                       |
| Number of USB interfaces      | 2                                                                                                                                                                                  |                                                                                       |
| CAN                           |                                                                                                                                                                                    |                                                                                       |
| Protocol                      | free protocol                                                                                                                                                                      |                                                                                       |
| Ethernet                      |                                                                                                                                                                                    |                                                                                       |
| Transmission standard         | 1GBase-T                                                                                                                                                                           |                                                                                       |
| Transmission rate             | 1000 MBit/s                                                                                                                                                                        |                                                                                       |
| Type of connector             | RJ45                                                                                                                                                                               |                                                                                       |
| Protocol                      | TCP/IP                                                                                                                                                                             |                                                                                       |
| Factory settings              | IP address: 192.168.0.69                                                                                                                                                           |                                                                                       |
|                               | subnet mask: 255.255.255.0 (Class C)                                                                                                                                               |                                                                                       |
|                               | gateway IP address: 192.168.0.201                                                                                                                                                  |                                                                                       |
|                               | MAC address: see type label                                                                                                                                                        |                                                                                       |
| Sensor interface              |                                                                                                                                                                                    |                                                                                       |
| Transmission standard         | FPD-Link                                                                                                                                                                           |                                                                                       |
| Type of connector             | HFM (Mini-FAKRA)                                                                                                                                                                   |                                                                                       |
| Note on interfaces            | maximum number of cameras: see operating instructions                                                                                                                              |                                                                                       |
| USB                           |                                                                                                                                                                                    |                                                                                       |
| Type of connector             | Mini-USB; type A                                                                                                                                                                   |                                                                                       |
| Version                       | 2.0; 3.0                                                                                                                                                                           |                                                                                       |
| Operating conditions          |                                                                                                                                                                                    |                                                                                       |
| Ambient temperature           | [°C]                                                                                                                                                                               | -10...40                                                                              |
| Storage temperature           | [°C]                                                                                                                                                                               | -40...85                                                                              |
| Protection                    | IP 50                                                                                                                                                                              |                                                                                       |
| Tests / approvals             |                                                                                                                                                                                    |                                                                                       |
| EMC                           | EN IEC 61000-6-4                                                                                                                                                                   | radiation of interference / residential, commercial and light-industrial environments |
|                               | EN IEC 61000-6-2                                                                                                                                                                   | noise immunity / industrial environments                                              |
| Shock resistance              | DIN EN 60068-2-27                                                                                                                                                                  | 50 g / (11 ms) not repetitive                                                         |
|                               | DIN EN 60068-2-27                                                                                                                                                                  | 40 g / (6 ms) repetitive                                                              |
| Vibration resistance          | DIN EN 60068-2-6                                                                                                                                                                   | 2 g / (10...150 Hz)                                                                   |
|                               | DIN EN 60068-2-64                                                                                                                                                                  | 2.3 g RMS / (10...500 Hz)                                                             |
| Electrical safety             | DIN EN 61010-2-201                                                                                                                                                                 | electrical supply only via PELV circuits                                              |
| Mechanical data               |                                                                                                                                                                                    |                                                                                       |
| Weight                        | [g]                                                                                                                                                                                | 1111                                                                                  |
| Dimensions                    | [mm]                                                                                                                                                                               | 126.5 x 29 x 180.4                                                                    |
| Material                      | housing: aluminum                                                                                                                                                                  |                                                                                       |
| Tightening torque             | [Nm]                                                                                                                                                                               | < 5.5                                                                                 |
| Hardware                      |                                                                                                                                                                                    |                                                                                       |
| Processor                     | SOM: Nvidia Jetson TX2NX 4GB Module<br>CPU: Dual-Core NVIDIA Denver 2 64-Bit CPU and Quad-Core Arm® Cortex®-A57 MPCore processor;<br>GPU: 256-core NVIDIA Pascal™ architecture GPU |                                                                                       |
| Working memory                | 4GB 128-bit LPDDR4, 1600 MHz - 51.2 GB/s                                                                                                                                           |                                                                                       |
| Mass storage                  | 32GB eMMC 5.1 Flash (16GB for docker)                                                                                                                                              |                                                                                       |

# OVP810



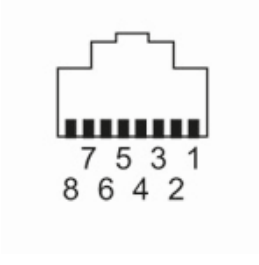
## Video processing unit (VPU)

OVPAAR0/E0/E1/TX2NX/4GB

### Remarks

|               |        |
|---------------|--------|
| Pack quantity | 1 pcs. |
|---------------|--------|

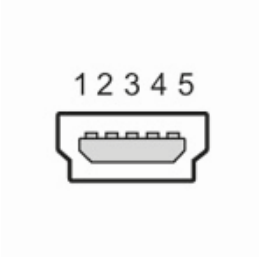
### Electrical connection - Ethernet Connection



|   |          |
|---|----------|
| 1 | TX +     |
| 2 | TX -     |
| 3 | RX +     |
| 4 | not used |
| 5 | not used |
| 6 | RX -     |
| 7 | not used |
| 8 | not used |

### Electrical connection - USB socket

Connector: 1 x mini USB interface



### Electrical connection - USB socket Typ A

Connector: 1 x Typ A



### Electrical connection - sensor interface

Connector: 6 x HFM (Mini-FAKRA) (AMK12A-1M4Z5-A)

# OVP810

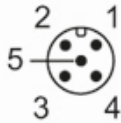


## Video processing unit (VPU)

OVPAAR0/E0/E1/TX2NX/4GB

### Electrical connection - voltage supply / CAN

Connector: 1 x M12; coding: A



|   |        |
|---|--------|
| 1 | screen |
| 2 | 24 V   |
| 3 | GND    |
| 4 | CAN +  |
| 5 | CAN -  |

### Other data

#### Connection

|           | Port 0            | Port 1            | Port 2            | Port 3            | Port 4        | Port 5        |
|-----------|-------------------|-------------------|-------------------|-------------------|---------------|---------------|
| example 1 | camera 1 (3D)     | camera 2 (3D)     | camera 1 (2D)     | camera 2 (2D)     | camera 3 (3D) | camera 4 (3D) |
| example 2 | camera 1 (2D)     | camera 2 (2D)     | camera 1 (3D)     | camera 2 (3D)     | camera 3 (2D) | camera 4 (2D) |
| example 3 | camera 1 (3D)     | camera 2 (3D)     | camera 3 (3D)     | camera 4 (3D)     | camera 5 (3D) | camera 6 (3D) |
| example 4 | camera 1 (3D-VGA) | camera 2 (3D-VGA) | camera 3 (3D-VGA) | camera 4 (3D-VGA) | -             | -             |

ports 0 and 1, 2 and 3, 4 and 5 must be assigned to the same type of image sensor.

please note the different 3D image sensor types 38k and VGA when connecting the cameras.

Remarks: Further information on the free memory required for specific applications can be found in the firmware-specific version information ([ifm.3d.com](http://ifm.3d.com)).