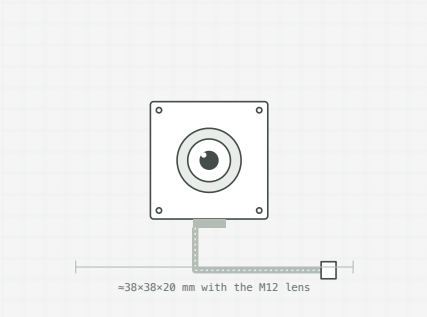
PIKHTA TECH LLC · HTTPS://FIRAI.RU · DATASHEET V0.9 DATED 3 OCT 2026

# PH-Cam-M — MIPI CSI camera

PH-Cam-M — ПХ-Cam-M in Russian documents

Sony IMX477 12 MP camera module with an M12 lens on a MIPI CSI-2 ribbon cable — for the PH-K01, PH-J01 and PH-J31: no USB, no network, minimal latency, driver in the system image.

| AVAILABILITY | LEAD TIME | MINIMUM ORDER (MOQ) | PRICE |
|---|---|---|---|
| **made to order, lead time in the quotation** | **in the quotation (driver for the customer's board)** | **1 unit; batch — from 10 units** | **on request, RUB excl. VAT** |




PH-Cam-M
diagram; photo — after the first samples

Outline drawing; product photos are on the product page. Dimensions: ≈38×38×20 mm with the M12 lens.

- Sony IMX477 12.3 MP 1/2.3″: 4056×3040@10, 1080p@60; IMX219 8 MP option
- MIPI CSI-2 2 / 4 lane, 15- or 22-pin ribbon cable — to match the carrier connector, included
- M12 6 mm lens (≈65°) with manual focus; 8 / 12 mm — options; IR-cut filter
- Driver and ISP profile in the PH-K01 / PH-J01 / PH-J31 system image; up to 2–4 cameras per device

Typical uses: embedding into your own device · robot and manipulator · vehicle cab · test bench and development.

## 1. Purpose

A ribbon-cable camera for boards and boxes with a CSI connector: Sony IMX477 12.3 MP sensor (IMX219 8 MP option), M12 lens with manual focus, 15- / 22-pin ribbon cable. Frames go straight into the processor's ISP — no USB controller and no second network; the driver and ISP settings are already in our system image for RK3588 and Jetson. For embedding into your own device, a robot or a vehicle cab: ribbon cable up to 30 cm, camera housing and extension — options. Need a camera at a distance — USB (PH-Cam-K) or IP (PH-Cam-S / PH-Cam-O).

> **Straight talk:** The MIPI ribbon cable runs up to 30 cm and only inside the enclosure: for a camera at a distance you need USB (PH-Cam-K) or IP (PH-Cam-S / PH-Cam-O).

## 2. Platform, processing and optics

| | |
|---|---|
| **Processing** | camera ISP; inference runs on the edge computer (PH-K30 / PH-K40 / PH-K01 / PH-J31 / PH-J01) |

| | |
|---|---|
| **TOPS INT8 dense** | not applicable (models run on the edge computer)<br>method: — |
| **Memory** | not applicable |
| **Storage** | none (frames are not stored in the camera) |

| | |
|---|---|
| **Sensor** | Sony IMX477 1/2.3″ 12.3 MP (options: IMX219 1/4″ 8 MP; IMX296 — global shutter) |
| **Shutter** | rolling; global — IMX296 option |
| **Resolution** | 4056×3040@10, 1920×1080@60 (IMX477); 3280×2464@21, 1080p@30 (IMX219) |
| **Lens** | M12 6 mm, ≈65° horizontal (base); 8 / 12 mm — options; manual focus |
| **WDR** | by the edge computer's ISP |
| **IR illumination** | none; IR-cut filter fitted (no-filter version — made to order) |
| **Interface** | MIPI CSI-2, 2 lane (IMX219) / 4 lane (IMX477); 15- / 22-pin 0.5 mm ribbon cable, up to 30 cm |

## 3. Interfaces

| | |
|---|---|
| **USB** | none |
| **Ethernet / PoE** | none |
| **RS-485 / CAN / RS-232** | none |
| **GPIO / relay** | none |
| **M.2** | none |
| **Video output** | none |
| **Wi-Fi / BT / LTE** | none<br>ribbon-cable camera inside the device |

## 4. Power and thermal

| | |
|---|---|
| **Power input** | 3.3 V over the ribbon cable from the device |
| **Power consumption (typical)** | ≈0.5 W |
| **Power consumption (peak)** | ≤1 W |
| **Cooling** | passive |
| **Enclosure temperature in a closed cabinet at +40 °C ambient** | measured after the first sample is tested; we publish the measurement, not a datasheet value |

## 5. Mechanical

| | |
|---|---|
| **Dimensions** | ≈38×38×20 mm with the M12 lens |
| **Weight** | ≈25 g |
| **Mounting** | 4 M2 holes at the board corners; holder housing with a 1/4″ thread — option |
| **Connectors** | 15- / 22-pin 0.5 mm FPC ribbon cable, 15 cm included (30 cm — option) |

## 6. Environment and protection

| | |
|---|---|
| **Operating temperature** | 0…+50 °C |
| **Ingress protection** | none — open board; housing — option |
| **Vibration / shock** | not rated |

## 7. Bench measurements

Measurements are expected with the first samples. What we measure: “frame → model result” latency vs. a USB camera on the same model.

measured with the first samples

## 8. Configuration options

| Option | Price |
|---|---|
| IMX477 12 MP, M12 6 mm lens — base | base |
| 8 mm (≈50°) or 12 mm (≈33°) lens | no surcharge |
| IMX219 8 MP (2 lane) | on request |
| IMX296 1.6 MP global shutter | on request |
| Camera housing with a 1/4″-20 tripod mount | on request |

Prices for 1 / 10 / 100 units and for options — in the quotation within 2 business days, valid 30 days. The contract includes a price revision formula tied to the Bank of Russia exchange rate and the DRAM index.

## 9. What's included

- Camera module with M12 lens, 15 cm ribbon cable (15- or 22-pin — to match the carrier connector)
- Driver and ISP profile in the device's system image
- 1-year warranty, replacement or spares
- Product passport

## 10. Compatibility

| | |
|---|---|
| **Cameras** | — |
| **Power / PSU** | over the ribbon cable from the device |
| **Runtimes** | V4L2 / libcamera (RK3588), Argus / GStreamer (Jetson) — in the system image |

## 11. Updates and support

the camera profile is updated together with the system image of the edge computer it is connected to.

## 12. Documents and origin

| | |
|---|---|
| **EAC declaration** | in progress — as part of the device declaration (to be confirmed) |
| **FSB notification** | not required — no radio |
| **Datasheet** | this document: PDF v0.9 and the web version on this website |
| **Product passport** | in progress |
| **Vendor security questionnaire** | not required — camera without a network interface — see the device questionnaire |
| **Origin and our part** | Sensor — Sony (Japan); camera module — contract manufacturer (ODM, China) under the Pikhta part number; driver, profile and kitting — in Russia. |

## 13. Chip and sensor vendor documentation

- Sony IMX477-AACK — flyer (PDF, Sony Semiconductor) (full datasheet — through a Sony distributor): https://www.sony-semicon.com/files/62/pdf/p-13_IMX477-AACK_Flyer.pdf

We do not host third-party documents — links to official pages only; full chip datasheets are available from the vendor or its distributor.