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Camera FAMOS 118° PAL IR LED  
Article no. 0171600

Camera FAMOS 80° PAL IR LED  
Article no. 0171610

Camera FAMOS 118° NTSC IR LED  
Article no. 0171620

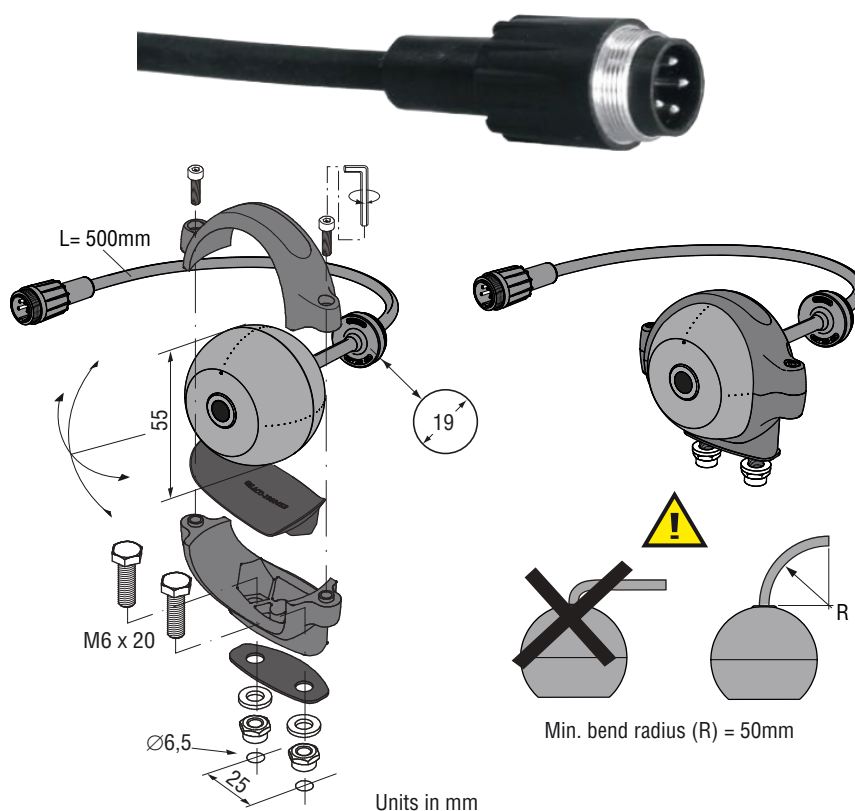
Camera FAMOS 80° NTSC IR LED  
Article no. 0171630

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# Product Data



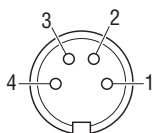
## Dimensions



## TECHNICAL DATA

### Camera FAMOS 80°/118° PAL/NTSC IR LED

|                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |                        |                       |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------|-----------------------|
| Article number         | 0171600                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0171610              | 0171620                | 0171630               |
|                        | FAMOS 118° PAL IR LED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | FAMOS 80° PAL IR LED | FAMOS 118° NTSC IR LED | FAMOS 80° NTSC IR LED |
| Lens specified         | 118°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 80°                  | 118°                   | 80°                   |
| Horizontal lens angle  | 118°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 80°                  | 118°                   | 80°                   |
| Vertical lens angle    | 89°                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 59°                  | 89°                    | 59°                   |
| Sensor                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                      |                        |                       |
| Video signal           | PAL = 720(H)x576(V) 50fld/s. NTSC = 720(H)x480(V) 60fld/s. 1 Vtt composite video into 75 Ohm.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                      |                        |                       |
| Sensor element         | ¼” CMOS digital image sensor. 640 H x 480 V.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                      |                        |                       |
| Light sensitivity      | <0,05 Lux.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                      |                        |                       |
| LED                    | 4 High Power Infrared LEDs (850nm).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                      |                        |                       |
| Activation IR LED's    | Modern software algorithm measures automatically the output parameters of the CMOS sensor and automatically decides and activates the value of IR illumination needed for the best image. IR LED's are activated between 0% and 100% in steps of 1%.                                                                                                                                                                                                                                                                                                                                                                                        |                      |                        |                       |
| Electrical             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                      |                        |                       |
| Power input            | 12...24V/DC.<br>Below 6V: camera is non functional. Between 7V heating element automatically activated (20% capacity). At 8V the camera is fully functional and the heating is at 40% of its capacity. At 12V the heating is at 100% capacity. Between 12V and 33V camera and heating element are fully functional. Above 33V the overvoltage protection is activated and camera plus heating element are switched off. This overvoltage-protection is deactivated below 32V. Powercircuit is protected up to 80V/Dc. Outputs are Short Circuit Protected.<br><i>In all these above mentioned values; a tolerance of +/-10% is applied.</i> |                      |                        |                       |
| Power consumption      | Camera only: 1.2W at 12V , Heater & full LED on: 7,5W at 12V.<br>Camera only: 1.2W at 24V , Heater & full LED on: 7,5W at 24V.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                      |                        |                       |
| Inrush current         | At 12V: 4.5A, 300us. At 24V: 12.0A, 300us.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                      |                        |                       |
| Heater element         | 2,4W max. Puls Width Modulated, activated from +30°C (min) to -40°C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                      |                        |                       |
| Transient protection   | Camera may be powered directly from 12V or 24V battery without additional electrical protection since camera has an integrated circuit that protects the camera against over- and undervoltage, spikes, ripples and loaddumps.                                                                                                                                                                                                                                                                                                                                                                                                              |                      |                        |                       |
| Connectors             | 0,5m cable with 4p molded male connector (camera power input and video output).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                      |                        |                       |
| Min. cable bend radius | 50mm.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                      |                        |                       |
| Mechanical             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                      |                        |                       |
| Housing                | Cycoloy (PC + ABS). Filling: Camera is potted with Polyurethane elastomer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                      |                        |                       |
| Ingress protection     | IP68 according to IEC 60529; dust tight and protected against the effects of continuous immersion in water up to 10m under water for 30 minutes. IP69k according to DIN 40050-9: camera can withstand a high pressure cleaning with water: 14-16L/min. 80°C and 100 bars flow.                                                                                                                                                                                                                                                                                                                                                              |                      |                        |                       |
| Mounting hardware      | Standard stainless steel.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |                        |                       |
| Shock constancy        | Shock and vibration resistant for usage on trucks, cranes, fork-lifts, maritime applications, machinery. Random vibration test 15,3Grms at frequency: 24 to 2000, PSD (g²/Hz) 0,04 to 0,10.                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |                        |                       |
| Camera bracket         | Material: glass reinforced polyamide, test: 50 Nm at -40°C to +85°C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                      |                        |                       |
| Weight                 | 0,21kg, 0,29 in standard packing.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                      |                        |                       |
| Truck use              | Withstand all fluids and materials used in and around trucks like: ammonia solution 5%, ethanol 80-100%, isopropanol 5-10%, soapy water (min. 50% soap per volume), alkaline degreasing compounds(used in high pressure washing equipment).                                                                                                                                                                                                                                                                                                                                                                                                 |                      |                        |                       |
| Operating temperature  | -40°C to +85°C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                      |                        |                       |
| Storage temperature    | -40°C to +100°C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |                        |                       |
| Certification          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                      |                        |                       |
| Approvals              | Approvals in compliance with all relevant EMC- and Automotive directives. This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Certificates available upon request.                                                                                                                                                                                                                                              |                      |                        |                       |
| Green Passport         | All materials are compliant to Green Passport requirements according IMO resolution MEPC.197(62) as adopted on 15 July 2011 (Maritime sector: International Maritime Organization concerning the functions of the Marine Environment Protection Committee).                                                                                                                                                                                                                                                                                                                                                                                 |                      |                        |                       |



#### Electrical connections

##### Front side of molded 4p male connector

- 1 = Coax core = Video signal
- 2 = Coax screen = Video GND
- 3 = Red = 12...24V/DC
- 4 = Black/orange = 0V
- Shielding = To connector housing

All data subject to change without notice. All dimensions are for commercial purpose only.  
The camera/display systems from Orlaco comply with the latest CE, ADR, EMC and mirror-directive regulations, where applicable.  
All products are manufactured in accordance with the ISO 9001 quality management system, ISO/TS 16949 quality automotive, ISO 14001 environmental management systems and all Ex products with the IECEx scheme and ATEX directives, where applicable.

