

# **Product Data**

# Camera FAMOS PAL

20°: Article no. 0171060

40°: Article no. 0171050

60°: Article no. 0171040

80°: Article no. 0171030

102°: Article no. 0171020

118°: Article no. 0171010

129°: Article no. 0171000

**Camera FAMOS NTSC** 

20°: Article no. 0171160

40°: Article no. 0171150

60°: Article no. 0171140

80°: Article no. 0171130

102°: Article no. 0171120

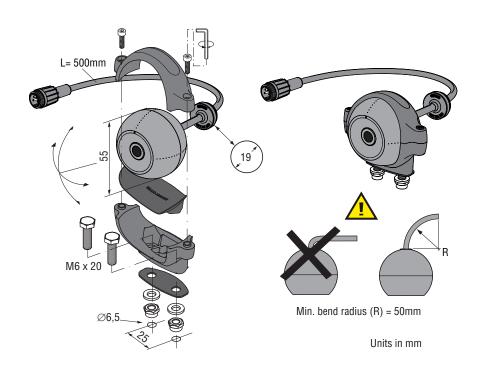
118°: Article no. 0171110

129°: Article no. 0171100

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# Camera FAMOS 20°/129° PAL/NTSC

Article number PAL Article number NTSC	<b>Description 0171060 0171160</b> FAMOS 20°	<b>0171050</b> <b>0171150</b> FAMOS 40°	<b>0171040</b> <b>0171140</b> FAMOS 60°	<b>0171030</b> <b>0171130</b> FAMOS 80°	<b>0171020</b> <b>0171120</b> FAMOS 102°	<b>0171010</b> <b>0171110</b> FAMOS 118°	<b>0171000</b> <b>0171100</b> FAMOS 129°
Lens specified	20°	40°	60°	80°	102°	118°	129°
Horizontal lens angle	20°	40°	60°	80°	102°	118°	129°
Vertical lens angle	15°	31°	44°	57°	73°	89°	97°

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 1/4" CMOS digital image sensor. 640 H x 480 V.

Light sensitivity<0,05 Lux.</th>Dynamic Range80dB.

Electrical

Power input 12...24V/DC.

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.

In all these above mentioned values; a tolerance of +/-10% is applied.

**Power consumption**Inrush current

Heating off: 1.1W at 12V, 1.2W at 24V; Heating on: Max. power at 24V 0,15A = 3,6W. Max. power at 12V 0.28A = 3.4W. At 12V: 4.5A, 300us. At 24V: 12.0A, 300us.

**Heater element** 2.4W max. Pulse 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 (g<sup>2</sup>/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.



