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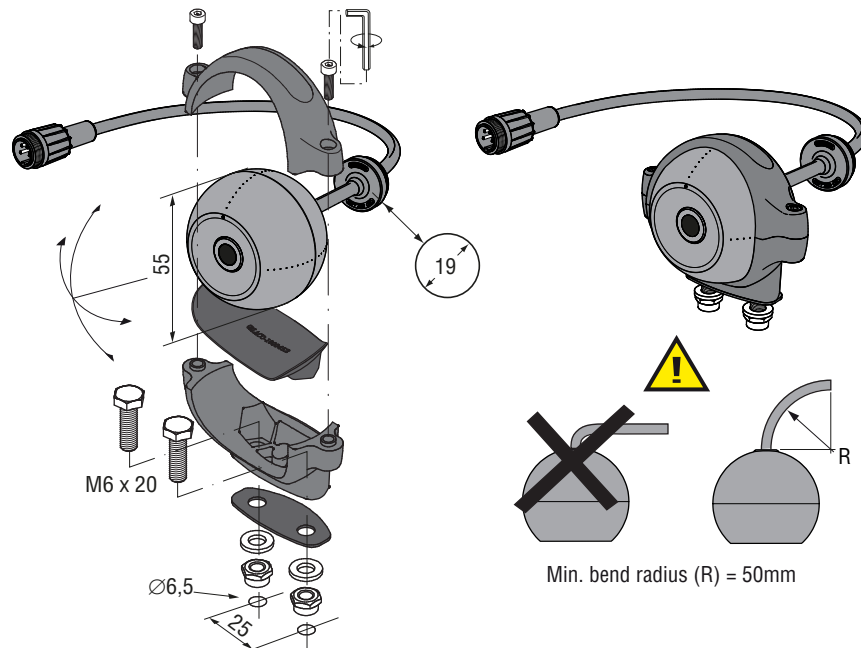
# Product Data

Camera FAMOS PAL  
20°: Article no. 312218  
40°: Article no. 312219  
60°: Article no. 312221  
80°: Article no. 312222  
102°: Article no. 312223  
118°: Article no. 312224  
129°: Article no. 312225

2016 • DS0171000 R2-0



## Dimensions



# TECHNICAL DATA

## Camera FAMOS 20°/129° PAL

### Description

VTG/Orlaco Norge number	312218	312219	312221	312222	312223	312224	312225
	FAMOS 20°	FAMOS 40°	FAMOS 60°	FAMOS 80°	FAMOS 102°	FAMOS 118°	FAMOS 129°
<b>Lens specified</b>	20°	40°	60°	80°	102°	118°	129°
<b>Horizontal lens angle</b>	20°	40°	60°	80°	102°	118°	129°
<b>Vertical lens angle</b>	15°	31°	44°	57°	73°	89°	97°

### Sensor

<b>Video signal</b>	PAL = 720(H)x576(V) 50fld/s. 1 Vtt composite video into 75 Ohm. 1/4"
<b>Sensor element</b>	CMOS digital image sensor. 640 H x 480 V.
<b>Light sensitivity</b>	<0,05 Lux.
<b>Dynamic Range</b>	80dB.

### Electrical

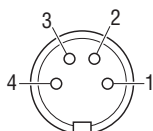
<b>Power input*</b>	12...24V/DC. Below 6V: camera is non functional. Between 7V heating element automatically activated (20% capacity). At 8V the camera is fully functional and the heating is at 40% of its capacity. At 12V the heating is at 100% capacity. Between 12V and 33V camera and heating element 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. <i>In all these above mentioned values; a tolerance of +/-10% is applied.</i>
<b>Power consumption</b>	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.
<b>Inrush current</b>	At 12V: 4.5A, 300us. At 24V: 12.0A, 300us.
<b>Heater element</b>	2.4W max.
<b>Transient protection</b>	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 loadumps.
<b>Connectors</b>	0,5m cable with 4p molded male connector (camera power input and video output).
<b>Min. cable bend radius</b>	50mm.

### Mechanical

<b>Housing</b>	Cycoloy (PC + ABS). Filling: Camera is potted with Polyurethane elastomer.
<b>Ingress protection</b>	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.
<b>Mounting hardware</b>	Standard stainless steel.
<b>Shock constancy</b>	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.
<b>Camera bracket</b>	Material: glass reinforced polyamide, test: 50 Nm at -40°C to +85°C.
<b>Weight</b>	0,21kg, 0,29 in standard packing.
<b>Truck use</b>	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).
<b>Operating temperature</b>	-40°C to +85°C.
<b>Storage temperature</b>	-40°C to +125°C.

### Certification

<b>Approvals</b>	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.
<b>Green Passport</b>	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.

