

1.4.2.3 Standard Customized Solutions (OEM) Thermal Sensors

60mW to 150W

Features

- Conduction or water cooled
- Spectrally flat
- UAF version can give analog voltage output or digital RS232 output and can measure power or energy. Can also have multiple switchable ranges and/or multiple switchable wavelengths
- UAU and UAE versions are similar to the UAF version but UAU operates via the USB terminal of the PC and UAE via an Ethernet connection



These specifications refer to standard OEM sensors, and are to be understood as generic, describing sensor families. Ophir will be happy to help you with a specific solution for your particular application.

Model	150C-SH	150C-UAF	150W-UAF	150C-UAU / UAE 150W-UAU / UAE
Type	Smart sensor	RS232 or Analog output	RS232 or Analog output	Same as UAF but with: UAU – USB compatible output UAE – Ethernet output
Features	High power, smart sensor	High power, built-in amplifier	High power, built-in amplifier, water cooled	High power, built-in amplifier, water cooled
Absorber Type	Broadband	Broadband	Broadband	
Spectral Range μm	0.19 - 20	0.19 - 20 ^(c)	0.19 - 20 ^(c)	
Absorption	~88%	~88%	~88%	
Aperture mm	$\varnothing 18$	$\varnothing 18$	$\varnothing 18$	
Power Mode				
Maximum power ^(a) free standing	5W continuous, 150W for 1 min	5W continuous, 150W for 1 min	150W water cooled	
heat sunked	100W	100W	NA	
Minimum power	60mW	60mW	100mW	
Power Noise Level	3mW	3mW	5mW	
Maximum Average Power Density kW/cm ²	30 at 5W 20 at 60W	30 at 5W 20 at 60W	12 at 150W	
Response Time (0-95%), typ. (sec)	1.2	1.2	1.2	
Calibration Uncertainty $\pm\%$	1.9	1.9	1.9	
Power Accuracy $\pm\%$ at calibration wavelength	3	3	3	
Linearity with Power $\pm\%$	1	1	1	
Amplifier power supply	NA	+6V to +24V	+6V to +24V	UAU - Via Host USB UAE +6V to +24V
Energy Mode				
Maximum Energy	100J	100J	100J	
Minimum Energy	20mJ	20mJ	50mJ	
Energy Accuracy $\pm\%$ at calibrated Wavelength	5	5	5	
Maximum Energy Density J/cm ²				
<100ns	0.3	0.3	0.3	
0.5ms	5	5	5	
2ms	10	10	10	
10ms	30	30	30	
Cooling	Conduction	Conduction	Water	
Connections	Ophir smart plug	6 pin Molex ^(b)	6 pin Molex ^(b)	UAU - Mini B USB connector UAE - Ethernet for communication M12 5 pin for power
Dimensions	50.8x50.8x33mm	50x50x38mm	50x50x38mm	
Compliance	CE, UKCA, China RoHS	RoHS, China RoHS	RoHS, China RoHS	RoHS, China RoHS
Part number	7N77023 ^(d)	Consult Ophir Representative	Consult Ophir Representative	Consult Ophir Representative

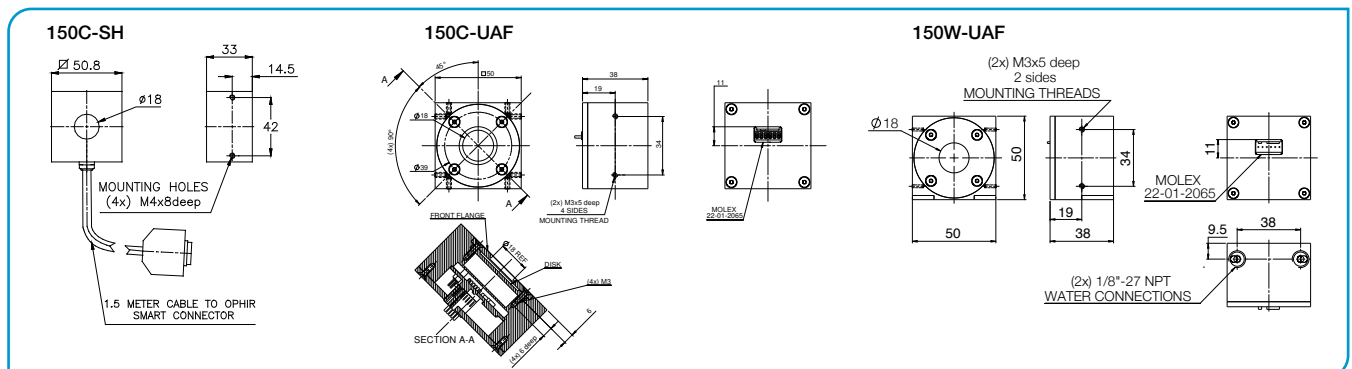
Note: (a) With analog "UAF" versions, sensor voltage output is accurate up to 2v below lowest level of supply voltage, taking into account supply voltage ripple

Note: (b) 6 pin Molex connections: RS232 input, Ground, +Voltage, Analog signal out, high/low voltage or switch input when used, RS232 output

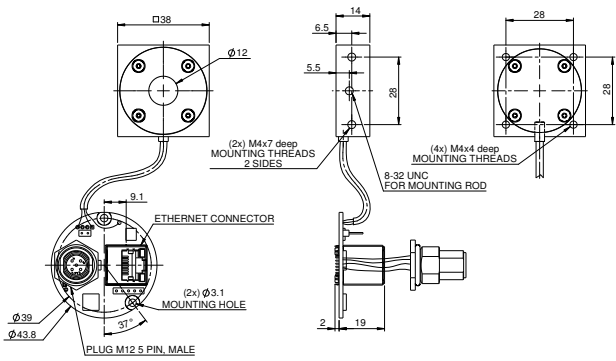
Note: (c) Calibrated at customer selected wavelength

Note: (d) P/N 7N77023 replaces P/N 77023

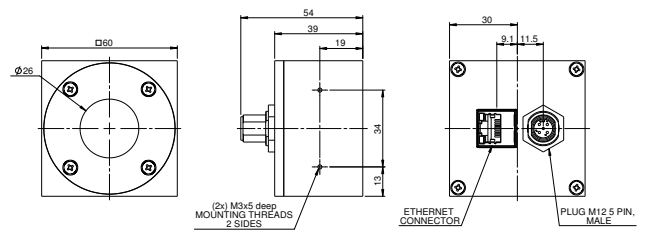
* For UAE & UAU drawings please see pages 122-123



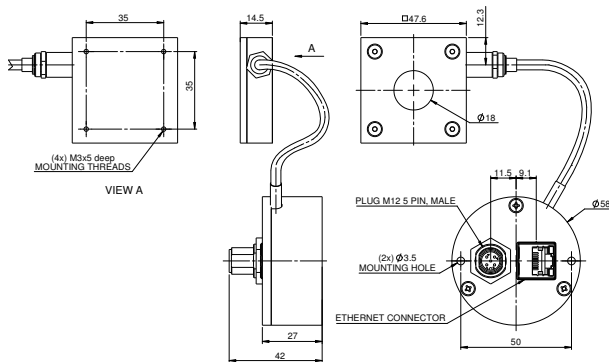
20C-UAE



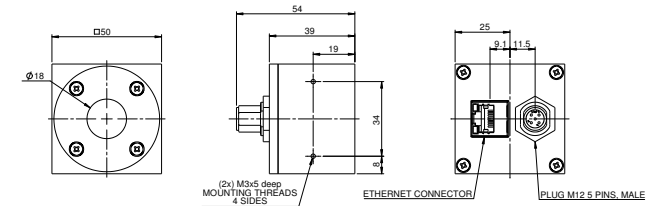
L30C-UAE



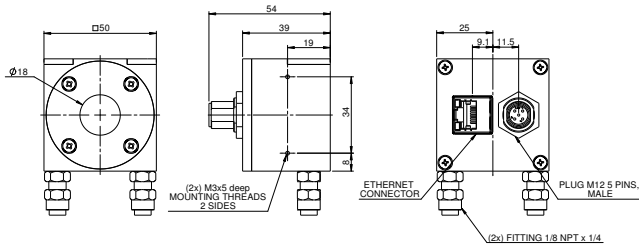
100C-UAE



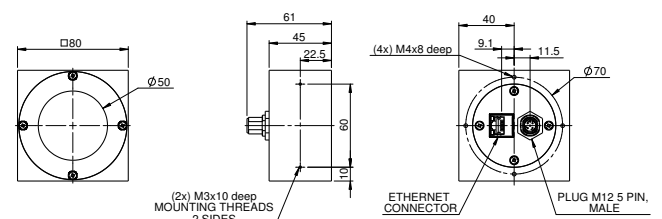
150C-UAE



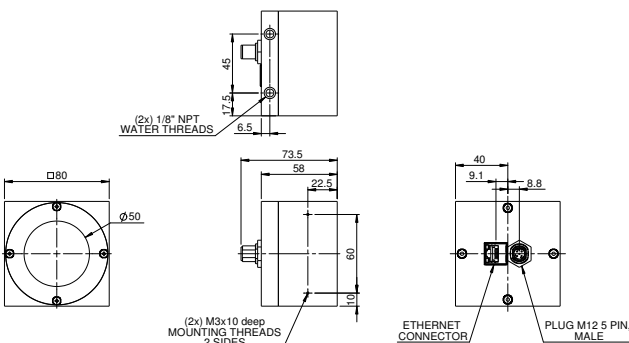
150W-UAE



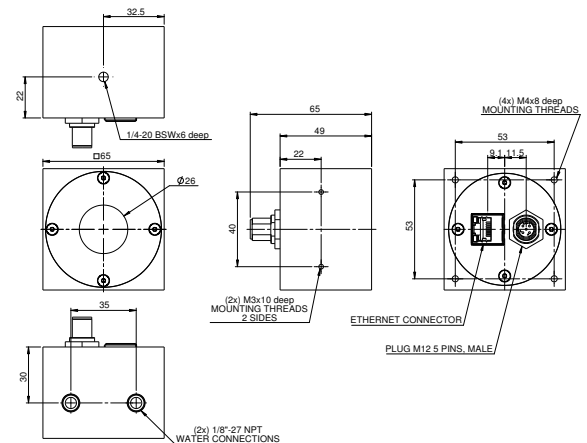
L150C-UAE



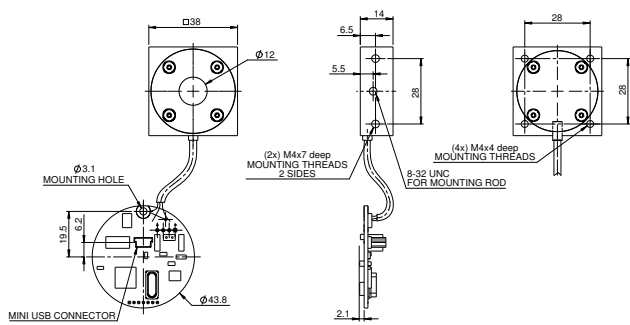
L250W-UAE / L300W-UAE



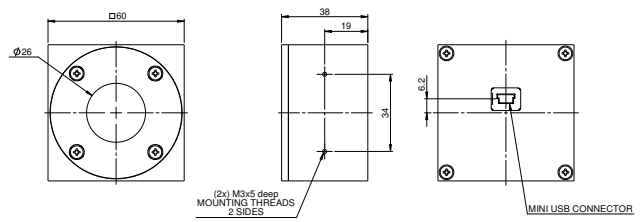
600W-UAE



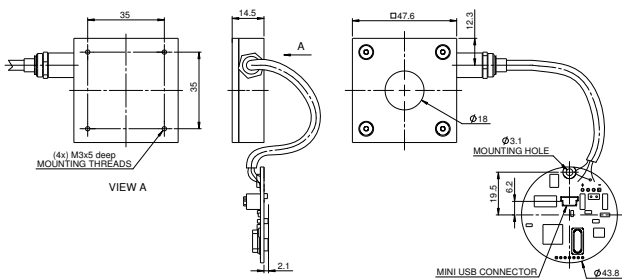
20C-UAU



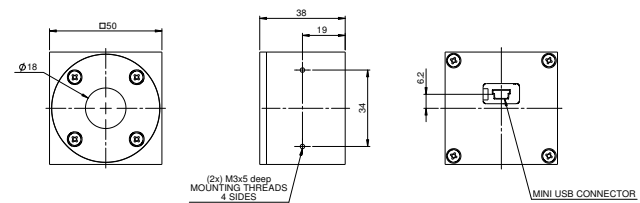
L30C-UAU



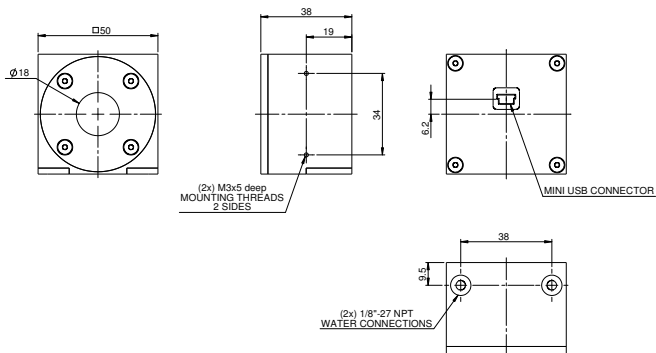
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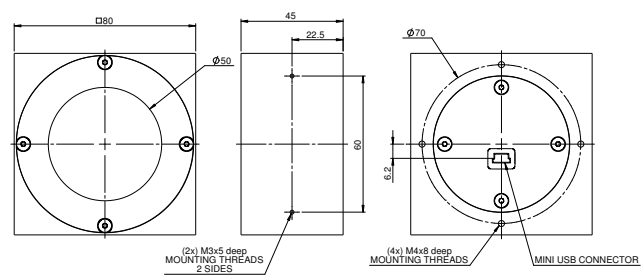
150C-UAU



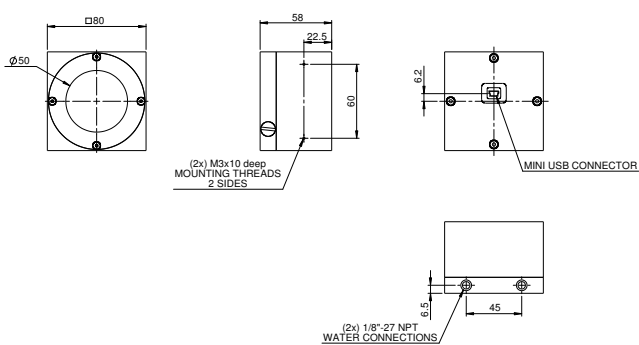
150W-UAU



L150C-UAU



L250W-UAU / L300W-UAU



600W-UAU

