

1.4.2.3 Standard Customized Solutions (OEM) Thermal Sensors

60mW to 100W

Features

- Conduction cooled
- Spectrally flat
- UAF axial thermopile has very fast response time – 50ms
- Standard UAF version can give analog voltage output or digital RS232 output and can measure power or single shot 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

100C-SH / 100C-UAF /
100C-UAU / 100C-UAE

100W-AXL-UAF



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	100C-SH	100C-UAF / 100C-UAU / 100C-UAE	100W-AXL-UAF	
Type	Smart sensor	UAF – Analog or RS232 output UAU – USB compatible output UAE – Ethernet output	RS232 or Analog output	
Features	Low profile, smart sensor	Low profile, various outputs	Very fast response ~50ms	
Absorber Type	Broadband	Broadband	PF	
Spectral Range μm	0.19 - 20	0.19 - 20 ^(c)	0.19 - 20 ^(c)	
Absorption	~88%	>94% from 0.25 to 1.1 μm	~88%	
Aperture mm	Ø18	Ø18	Ø26	
Power Mode				
Maximum power ^(a)	free standing heat sinked	4W continuous, 20W for 1.8 min 100W	4W continuous, 20W for 1.8 min 100W	100W water cooled only
Minimum power	60mW	60mW	60mW	400mW
Power Noise Level	3mW	3mW	3mW	20mW
Maximum Average Power Density kW/cm ²	30 at 4W 14 at 100W	30 at 4W 14 at 100W	30 at 4W 14 at 100W	0.4
Response Time (0-95%), typ. (sec)	1.2s	1.2s	1.2s	50ms 0-90%
Calibration Uncertainty ±%	1.9	1.9	1.9	1.9
Power Accuracy ±% at calibration wavelength	3	3	3	3 for beam diameter >8mm
Linearity with Power ±%	1	1	1	2
Amplifier power supply	NA	UAF +6V to +24V UAU - Via Host USB UAE +6V to +24V via separate connector	+12V to +24V	
Energy Mode				
Maximum Energy	NA	NA	NA	NA
Minimum Energy	NA	NA	NA	NA
Maximum Energy Density J/cm ²				
<100ns	0.3	0.3	0.3	1.5
0.5ms	5	5	5	7
2ms	10	10	10	15
10ms	30	30	30	40
Cooling	Conduction	Conduction	Conduction	Water
Connections	Ophir smart plug	UAF - 6 pin Molex ^(b) UAU - Mini B USB connector UAE - Ethernet for communications and 5 pin for power	6 pin Molex ^(b)	
Dimensions	48x48x14.5mm	48x48x14.5mm	48x48x14.5mm	60x60x45mm
Compliance	CE, UKCA, China RoHS	RoHS, China RoHS	RoHS, China RoHS	RoHS, China RoHS
Part number	7Z02680	Consult Ophir Representative	Consult Ophir Representative	Consult Ophir Representative

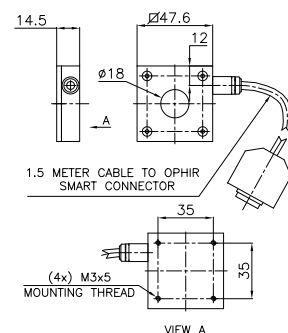
Note: (a) With analog "UAF" versions, sensor voltage output is accurate up to 2v below lowest level of supply voltage, taking into account supply voltage ripple

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

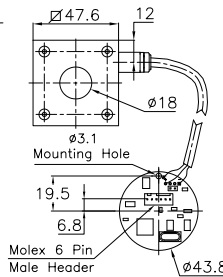
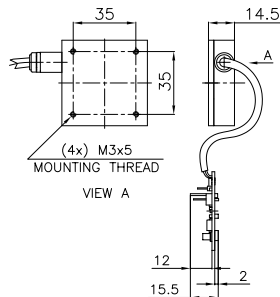
Note: (c) Calibrated at customer selected wavelength

* For UAE & UAU drawings please see pages 125-126

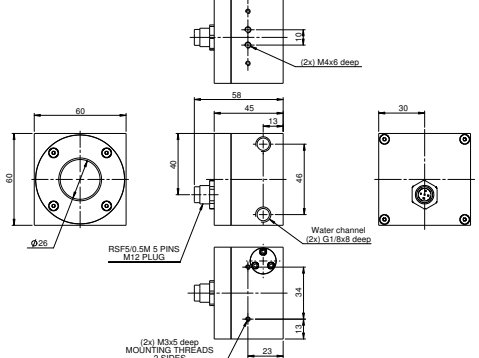
100C-SH



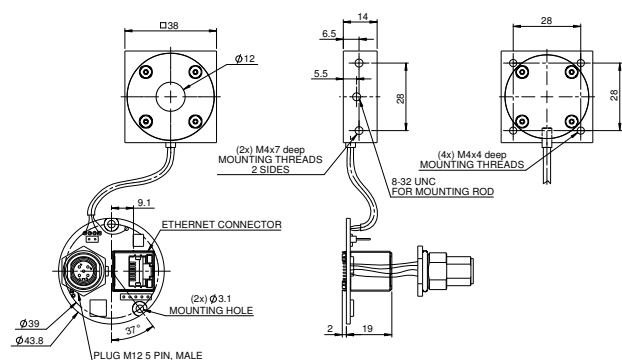
100C-UAF



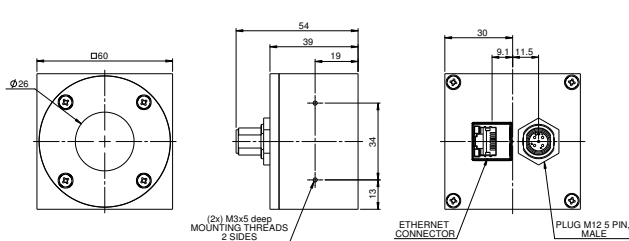
100W-AXL-UAF



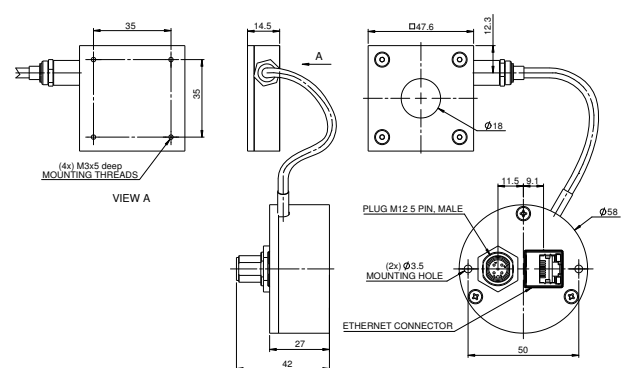
20C-UAE



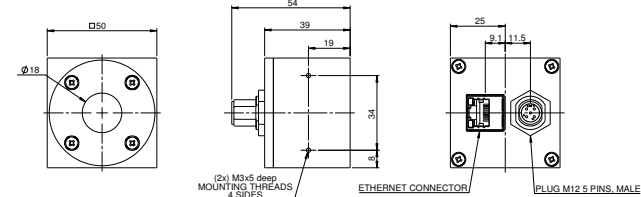
L30C-UAE



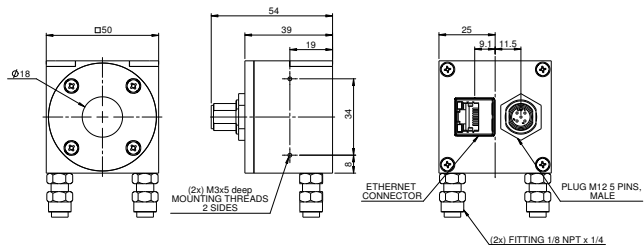
100C-UAE



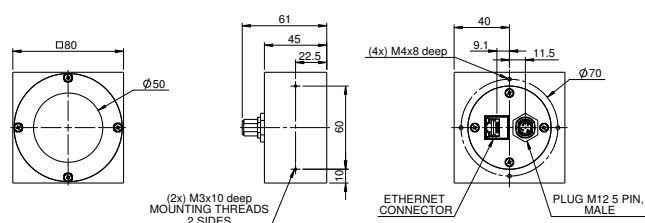
150C-UAE



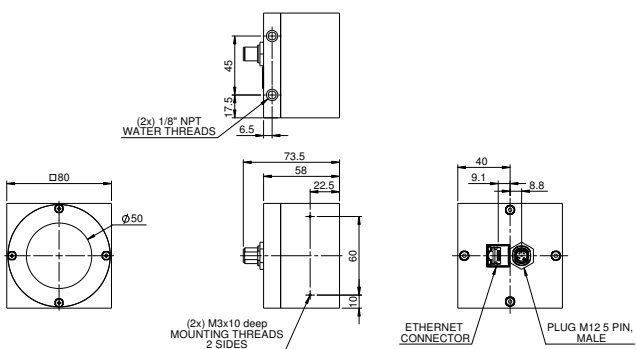
150W-UAE



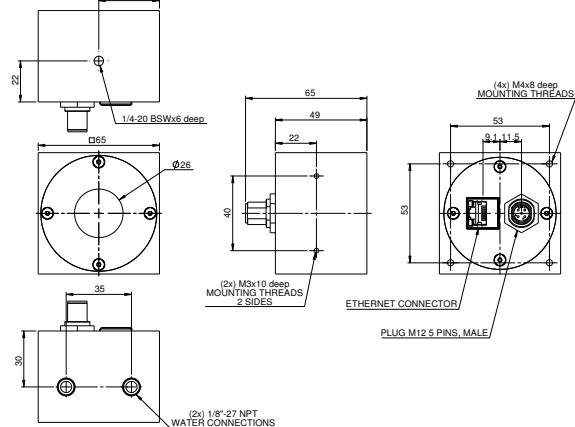
L150C-UAE



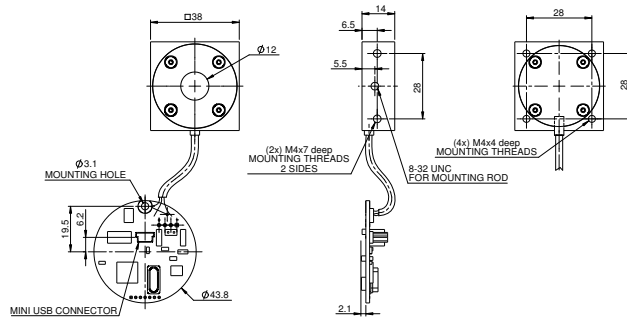
L250W-UAE / L300W-UAE



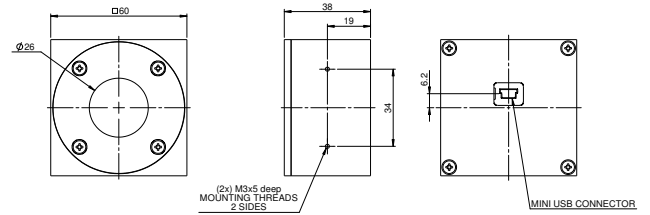
600W-UAE



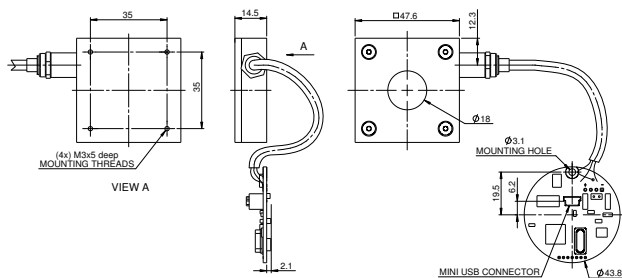
20C-UAU



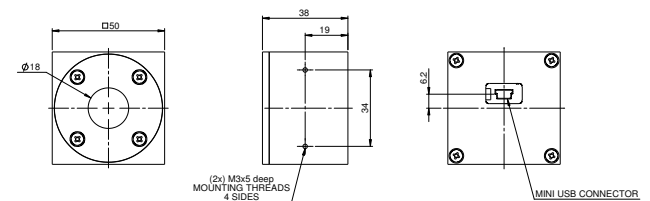
L30C-UAU



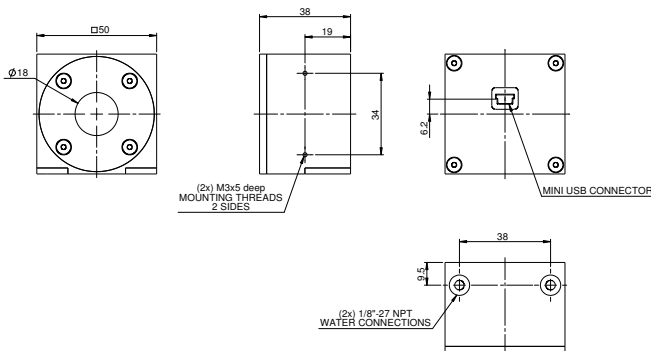
100C-UAU



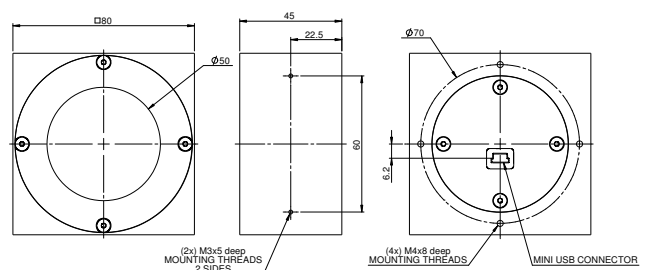
150C-UAU



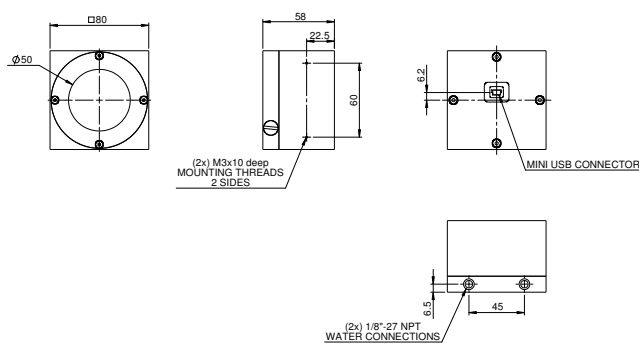
150W-UAU



L150C-UAU



L250W-UAU / L300W-UAU



600W-UAU

