

## 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
- UA 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 UA version but UAU operates via the USB terminal of the PC and UAE via an Ethernet connection

100C-SH / 100C-UA /  
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.

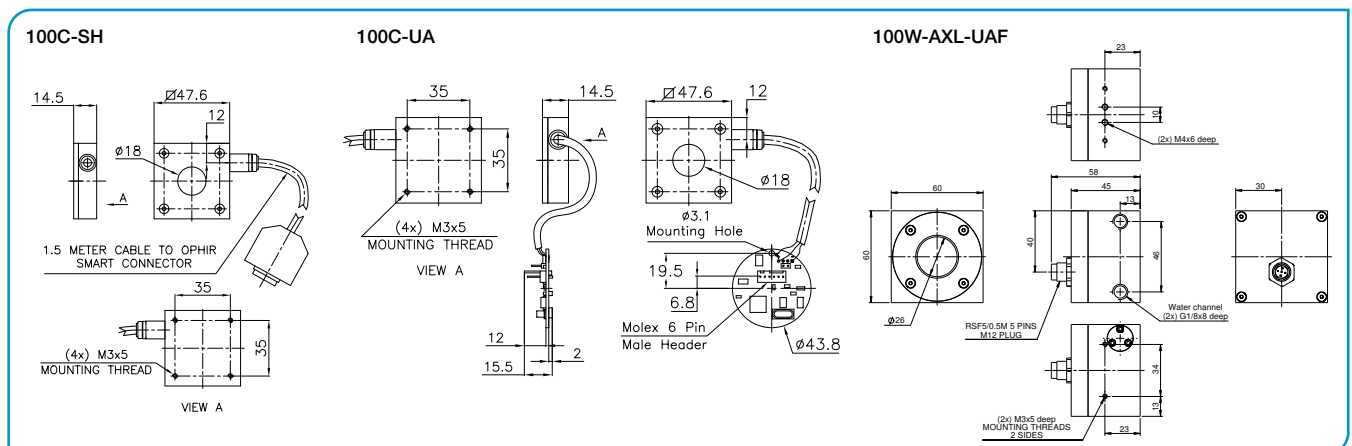
Model	100C-SH	100C-UA / 100C-UAU / 100C-UAE	100W-AXL-UAF
Type	Smart sensor	UA – Analog or RS232 output UAU – USB compatible output UAE – Ethernet output	RS232 or Analog output
Features	Low profile, smart sensor	Low profile, various outputs	Very fast response ~50ms
Absorber Type	Broadband	Broadband	PF
Spectral Range $\mu\text{m}$	0.19 - 20	0.19 - 20 <sup>(c)</sup>	0.19 - 20 <sup>(c)</sup>
Absorption	~88%	>94% from 0.25 to 1.1 $\mu\text{m}$	~88%
Aperture mm	$\varnothing$ 18	$\varnothing$ 18	$\varnothing$ 26
Power Mode			
Maximum power <sup>(a)</sup>	free standing 4W continuous, 20W for 1.8 min heat sinked 100W	4W continuous, 20W for 1.8 min 100W	100W water cooled only
Minimum power	60mW	60mW	400mW
Power Noise Level	3mW	3mW	20mW
Maximum Average Power Density kW/cm <sup>2</sup>	30 at 4W 14 at 100W	30 at 4W 14 at 100W	0.4
Response Time (0-95%), typ. (sec)	1.2s	1.2s	50ms 0-90%
Power Accuracy +/-% at calibration wavelength	3	3	3 for beam diameter >8mm
Linearity with Power +/-%	1	1	2
Amplifier power supply	NA	UA +6V to +24V UAU - Via Host USB UAE +6V to +24V via separate connector	+12V to +24V
Energy Mode			
Maximum Energy	NA	NA	NA
Minimum Energy	NA	NA	NA
Maximum Energy Density J/cm <sup>2</sup>			
<100ns	0.3	0.3	1.5
0.5ms	5	5	7
2ms	10	10	15
10ms	30	30	40
Cooling	Conduction	Conduction	Water
Connections	Ophir smart plug	UA - 6 pin Molex <sup>(b)</sup> UAU - Mini B USB connector UAE - Ethernet for communications and 5 pin for power	6 pin Molex <sup>(b)</sup>
Dimensions	48x48x14.5mm	48x48x14.5mm	60x60x45mm
Compliance	CE, China RoHS	RoHS, China RoHS	RoHS, China RoHS
Part number	7Z02680	Consult Ophir Representative	Consult Ophir Representative

Note: (a) With analog "UA" and "UAF" versions, maximum power is also limited by maximum output voltage where output voltage is at most 2V less than input voltage

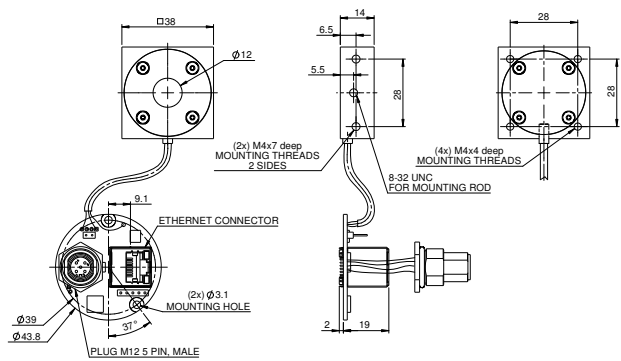
Note: (b) 6 pin Molex connections: RS232 input, Ground, +Voltage, Analog signal out, high/low voltage or switch input when used, RS232 output

Note: (c) Calibrated at customer selected wavelength

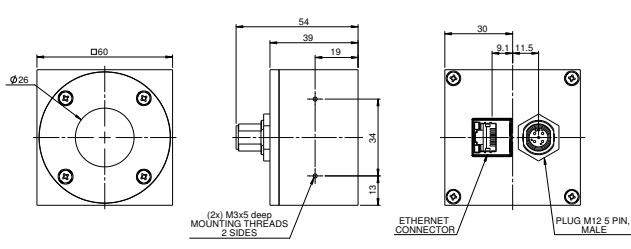
\* For UAE & UAU drawings please see pages 119-120



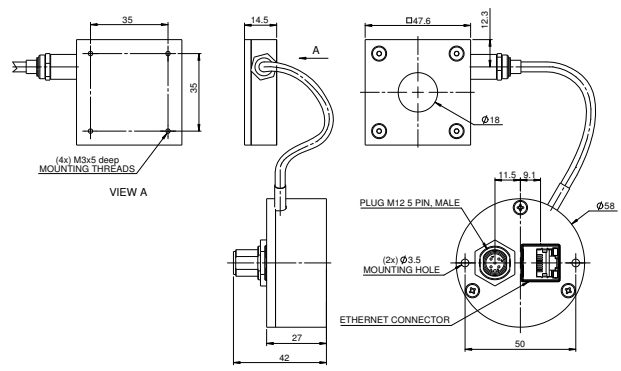
**20C-UAE**



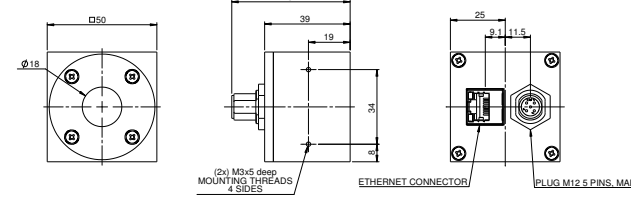
**L30C-UAE**



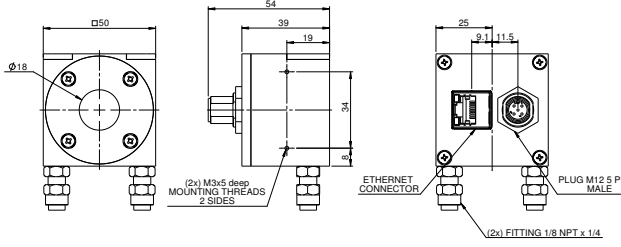
**100C-UAE**



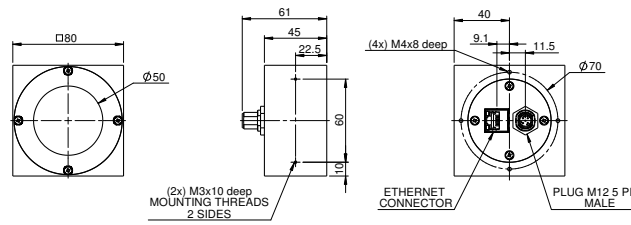
**150C-UAE**



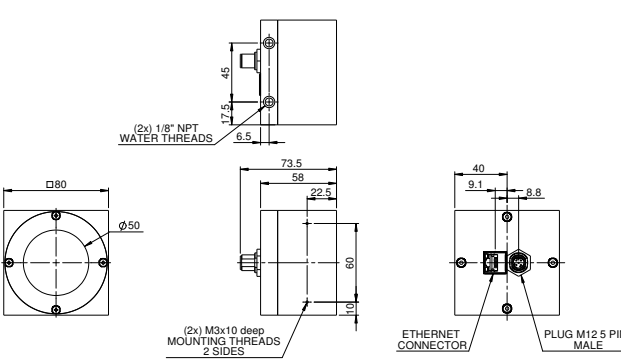
**150W-UAE**



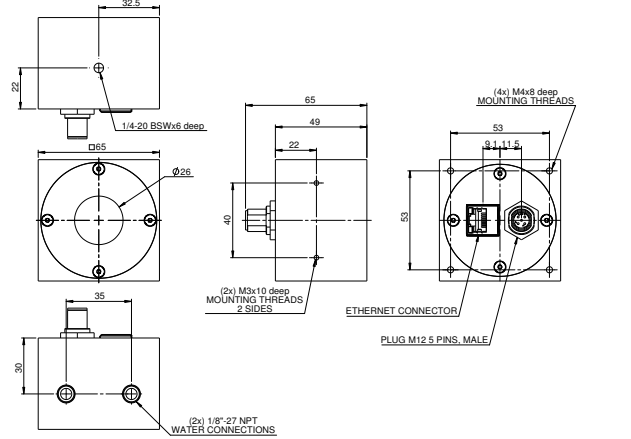
**L150C-UAE**



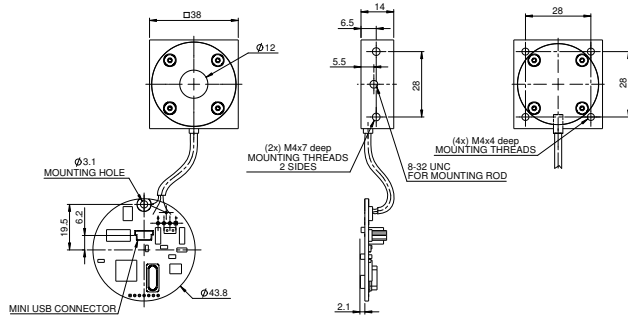
**L250W-UAE / L300W-UAE**



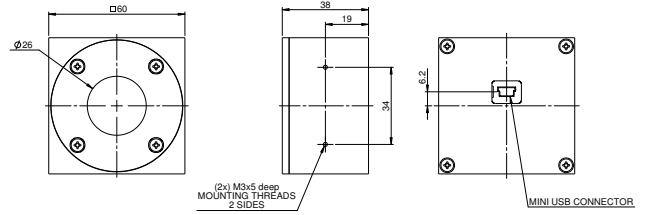
**600W-UAE**



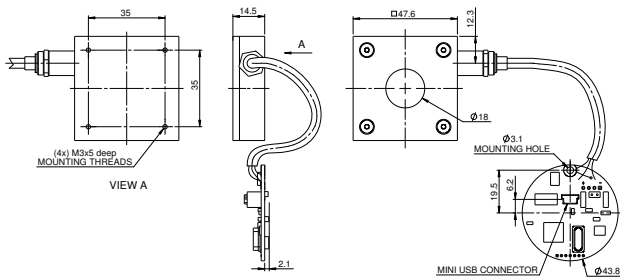
## 20C-UAU



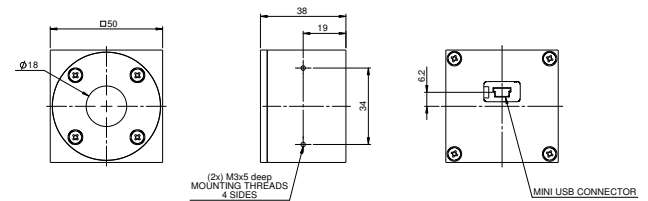
## L30C-UAU



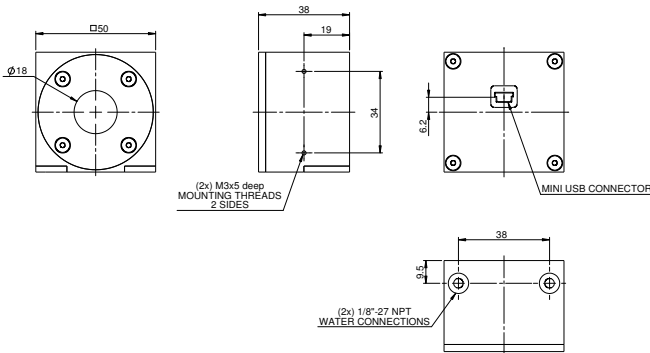
## 100C-UAU



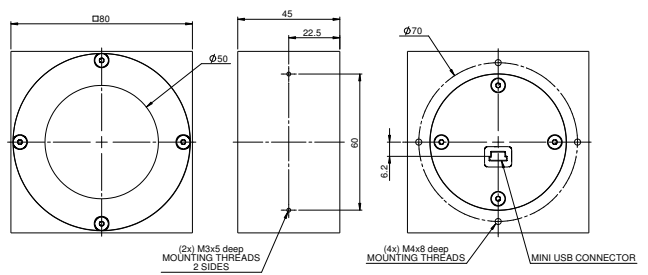
## 150C-UAU



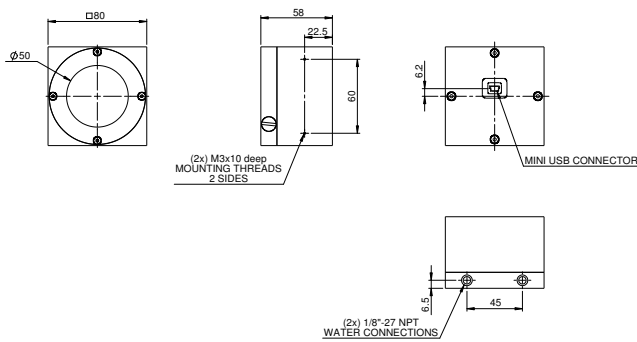
## 150W-UAU



## L150C-UAU



## L250W-UAU / L300W-UAU



## 600W-UAU

