

### 1.4.2.3 Standard Customized Solutions (OEM) Thermal Sensors

#### 60mW to 100W

##### Features

- Conduction cooled
- Spectrally flat
- 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-BB-18-SH / 100C-UAF / 100C-UAU / 100C-UAE



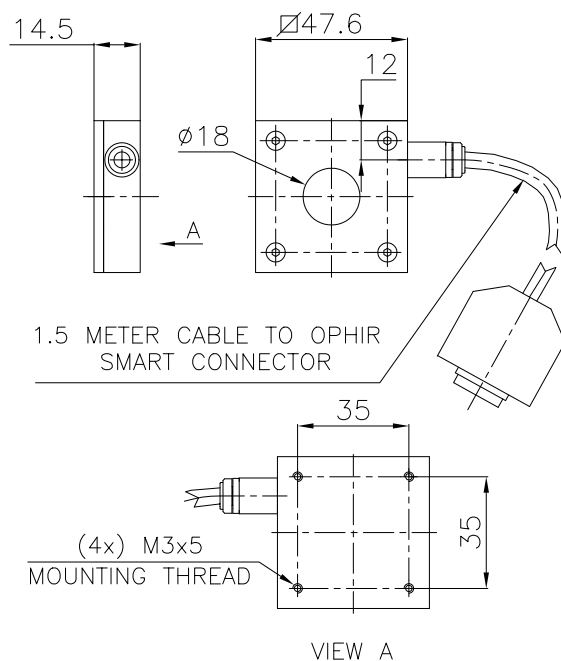
These specifications refer to standard OEM sensors, and are to be understood as generic, describing sensor families. Ophir will be happy to help you with a specific solution for your particular application.

| Model                                                                                                                                                            | 100C-BB-18-SH                  | 100C-UAF / 100C-UAU / 100C-UAE                                                                                          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| Type                                                                                                                                                             | Smart sensor                   | UAF – Analog or RS232 output<br>UAU – USB compatible output<br>UAE – Ethernet output                                    |
| Features                                                                                                                                                         | Low profile, smart sensor      | Low profile, various outputs                                                                                            |
| Absorber Type                                                                                                                                                    | Broadband                      | Broadband                                                                                                               |
| Spectral Range $\mu\text{m}$                                                                                                                                     | 0.19 - 11                      | 0.19 - 11 <sup>(c)</sup>                                                                                                |
| Absorption                                                                                                                                                       | ~88%                           | ~88%                                                                                                                    |
| Aperture mm                                                                                                                                                      | Ø18                            | Ø18                                                                                                                     |
| Power Mode                                                                                                                                                       |                                |                                                                                                                         |
| Maximum power <sup>(a)</sup>                                                                                                                                     | 4W continuous, 20W for 1.8 min | 4W continuous, 20W for 1.8 min                                                                                          |
| free standing                                                                                                                                                    | 100W                           | 100W                                                                                                                    |
| heat sinked                                                                                                                                                      | 60mW                           | 60mW                                                                                                                    |
| Minimum power                                                                                                                                                    | 60mW                           | 60mW                                                                                                                    |
| Power Noise Level                                                                                                                                                | 3mW                            | 3mW                                                                                                                     |
| Maximum Average Power Density $\text{kW}/\text{cm}^2$                                                                                                            | 30 at 4W 14 at 100W            | 30 at 4W 14 at 100W                                                                                                     |
| Response Time (0-95%), typ. (sec)                                                                                                                                | 1.2s                           | 1.2s                                                                                                                    |
| Calibration Uncertainty $\pm\%$                                                                                                                                  | 1.9                            | 1.9                                                                                                                     |
| Power Accuracy $\pm\%$ at calibration wavelength                                                                                                                 | 3 <sup>(d)</sup>               | 3 <sup>(d)</sup>                                                                                                        |
| Linearity with Power $\pm\%$                                                                                                                                     | 1                              | 1                                                                                                                       |
| Amplifier power supply                                                                                                                                           | NA                             | UAF +6V to +24V<br>UAU - Via Host USB<br>UAE +6V to +24V via separate connector                                         |
| Energy Mode                                                                                                                                                      |                                |                                                                                                                         |
| Maximum Energy                                                                                                                                                   | NA                             | NA                                                                                                                      |
| Minimum Energy                                                                                                                                                   | NA                             | NA                                                                                                                      |
| Maximum Energy Density $\text{J}/\text{cm}^2$                                                                                                                    |                                |                                                                                                                         |
| 7ns                                                                                                                                                              | 0.3                            | 0.3                                                                                                                     |
| 0.5ms                                                                                                                                                            | 5                              | 5                                                                                                                       |
| 2ms                                                                                                                                                              | 10                             | 10                                                                                                                      |
| 10ms                                                                                                                                                             | 30                             | 30                                                                                                                      |
| Cooling                                                                                                                                                          | Conduction                     | Conduction                                                                                                              |
| Connections                                                                                                                                                      | Ophir smart plug               | UAF - 6 pin Molex <sup>(b)</sup><br>UAU - Mini B USB connector<br>UAE - Ethernet for communications and 5 pin for power |
| Dimensions                                                                                                                                                       | 48x48x14.5mm                   | 48x48x14.5mm                                                                                                            |
| Compliance                                                                                                                                                       | CE, UKCA, China RoHS           | RoHS, China RoHS                                                                                                        |
| Version                                                                                                                                                          | V1                             |                                                                                                                         |
| Part number                                                                                                                                                      | 7Z07126                        | 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) $\pm 4\%$ . For wavelengths <240nm                                                                                                                     |                                |                                                                                                                         |

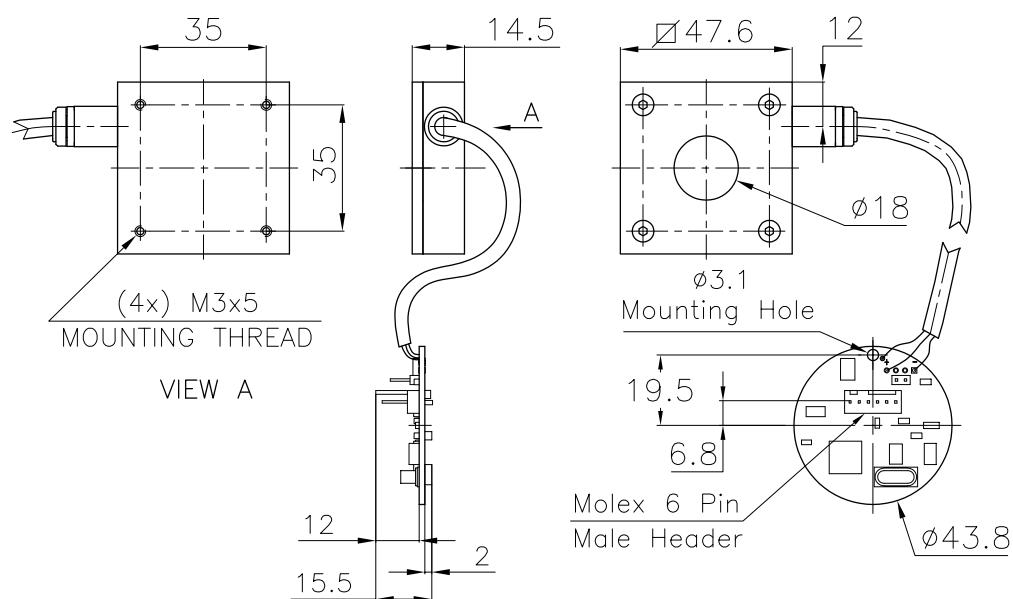
\* For drawings please see page 163

\* For UAE & UAU drawings please see pages 168-169

## 100C-BB-18-SH

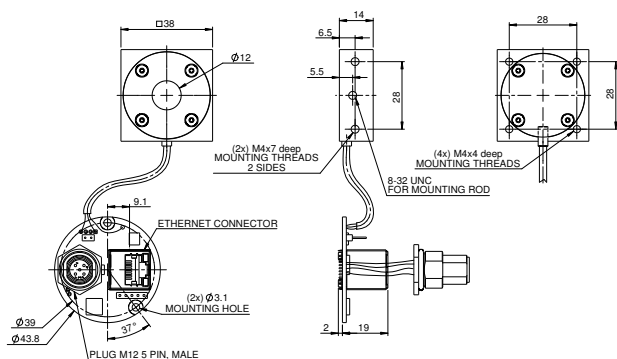


## 100C-UAF

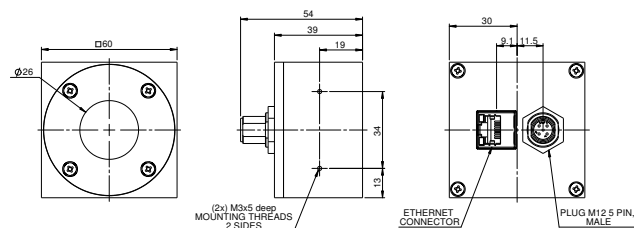


# UAE Drawings

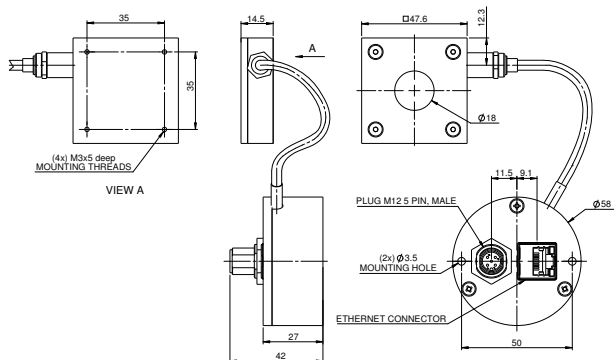
20C-UAE



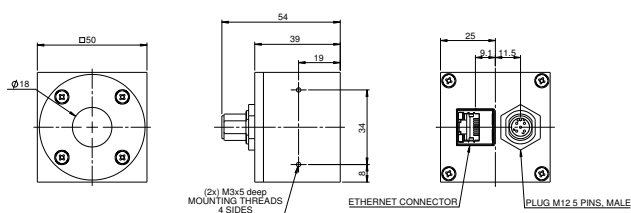
L30C-UAE



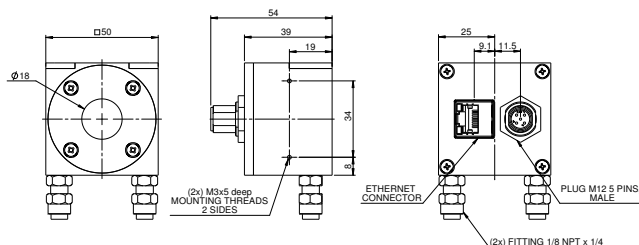
100C-UAE



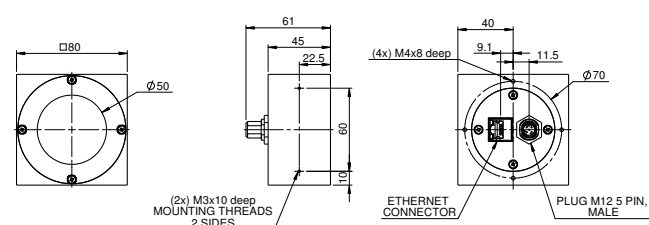
150C-UAE



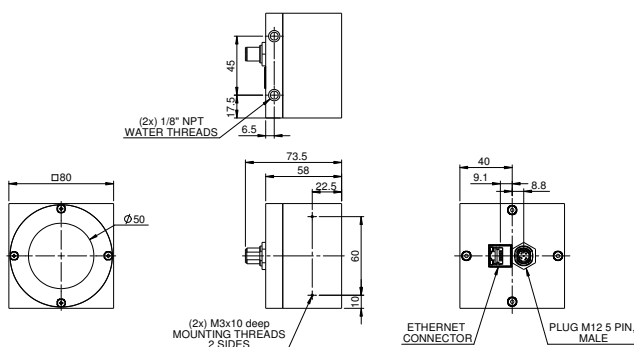
150W-UAE



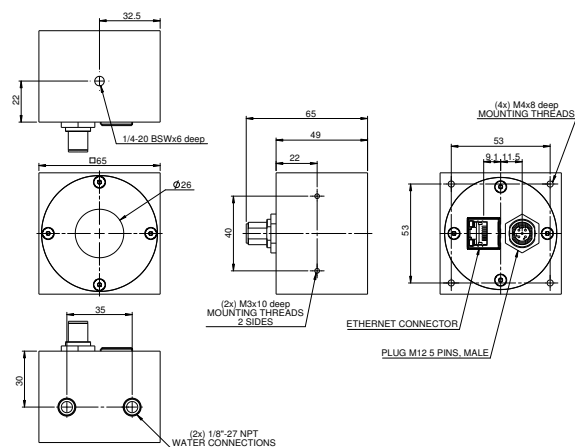
L150C-UAE



L250W-UAE / L300W-UAE

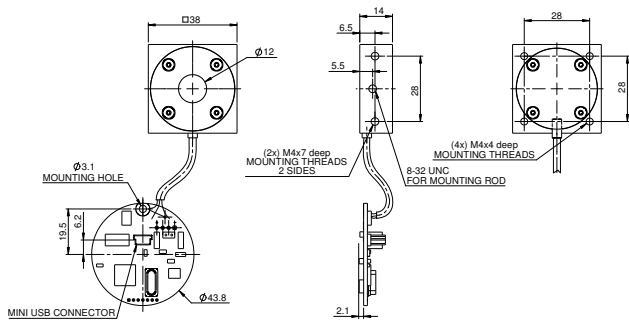


600W-UAE

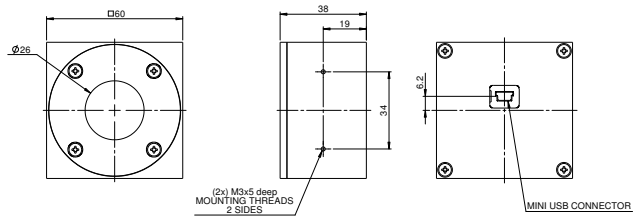


# UAU Drawings

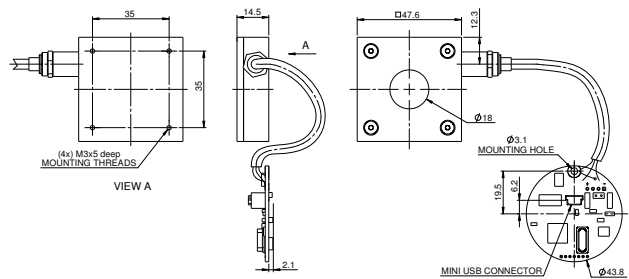
20C-UAU



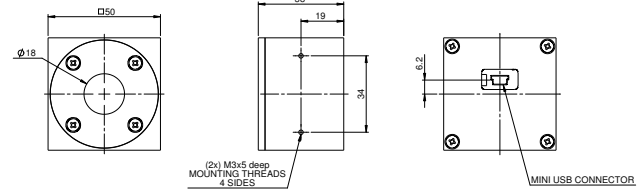
L30C-UAU



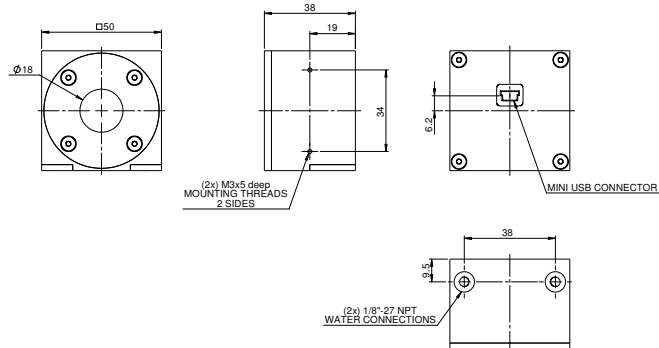
100C-UAU



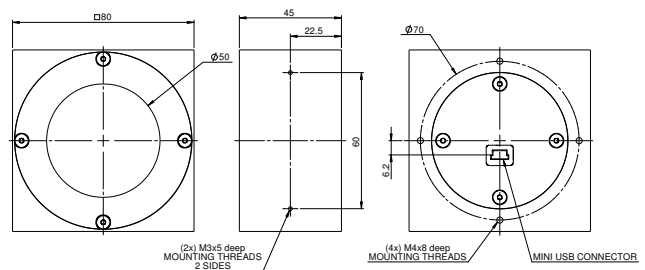
150C-UAU



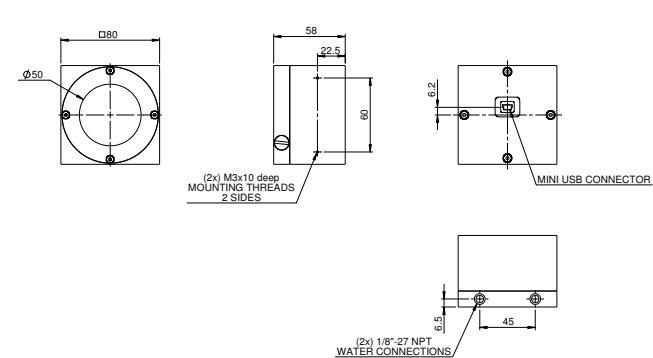
150W-UAU



L150C-UAU



L250W-UAU / L300W-UAU



600W-UAU

