

## CLKT C-Range Infrared Window for outdoor applications

### Technical Data

#### Increase the safety and speed of electrical thermography

If you are concerned about arc-flash but wish to continue with your infrared thermography program, infrared windows are the answer. These arc-resistant, outdoor certified, infrared windows allow thermal, ultraviolet, visual and fusion technologies to be used without exposing personnel to live equipment.



All infrared windows from Fluke use the unique Quadraband™ multispectral optic, allowing inspection with any camera for total flexibility both now and in the future.

- Engineered and tested to withstand electric-arcs up to 50 kA for 30 cycles.
- Certified by UL & CSA for Type 3/12 (Outdoor) environments in North America and Canada, the C-Range windows are tested to withstand the long term aging effects of UV exposure.
- Certified by SIRA Certification IP65 (Outdoor) environments in Europe.
- The CLIRVU® coating—exclusive to Fluke Windows—seals the optic prior to assembly to protect against moisture degradation.
- Own a Fluke Camera? The Quadraband™ optic is IR-Fusion® compatible, allowing the thermographer to see potential problems in visual light and thermographic mode.
- Got more than one window per panel? Each C-Range window is delivered with an identification plate attached for unique, on-site numbering for rapid location confirmation and faster repairs.
- Each infrared window comes complete with a security access key, installation instructions and self-adhesive drilling template.



Exclusive to Fluke IR Windows, allows you to inspect your equipment with four different types of cameras. Provides maximum flexibility to upgrade or swap out inspection cameras without any IR Window replacement. No other IR Windows manufacturer gives you that flexibility.



Clirvu II Quadraband™

#### AutoGround™

Automatically grounds at installation for maximum safety and compliance. No additional steps or testing is required. Only available on Fluke IR Windows.



AutoGrounding™

## Detailed specifications

|                                  | 3460346 FLK-050-CLKT              | 3460387 FLK-075-CLKT              | 3460439 FLK-100-CLKT              |
|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| <b>Optic data</b>                |                                   |                                   |                                   |
| <b>Crystal insert diameter</b>   | 50 mm (1.97 in)                   | 75 mm (2.96 in)                   | 100 mm (3.94 in)                  |
| <b>Viewing aperture diameter</b> | 43 mm (1.7 in)                    | 68 mm (2.7 in)                    | 89 mm (3.5 in)                    |
| <b>Viewing aperture area</b>     | 1452 mm <sup>2</sup> (2.25 sq in) | 3632 mm <sup>2</sup> (5.63 sq in) | 6322 mm <sup>2</sup> (9.79 sq in) |
| <b>Thickness</b>                 | 2 mm (0.08 in)                    | 2 mm (0.08 in)                    | 4 mm (0.16 in)                    |
| <b>CLIRVU coating</b>            | Yes                               |                                   |                                   |
| <b>Shortwave IR capable</b>      | Yes                               |                                   |                                   |
| <b>Midwave IR capable</b>        | Yes                               |                                   |                                   |
| <b>Longwave IR capable</b>       | Yes                               |                                   |                                   |
| <b>Ultraviolet (UV) capable</b>  | Yes                               |                                   |                                   |
| <b>Visual capable</b>            | Yes                               |                                   |                                   |
| <b>Fusion capable</b>            | Yes                               |                                   |                                   |

### Why is available area important?

Understanding the difference between “Optic Diameter” and “Available Area” gives the thermographer a measure of how much infrared energy is passing through the window. The more energy, the better the reading. The entire area of a crystal IR Window is available for infrared transmission for optimum repeatable results.

Mesh grids may have a larger “optic diameter” but the grid itself blocks the IR signal. The amount of radiation available to the camera via mesh windows is significantly reduced and the signal may be irregular.

|  |                            |
|--|----------------------------|
| <b>Underwriters Laboratories (UL) recognized</b>             | <b>Yes</b>                 |
| UL50 environmental   | Type 3/12                  |
| UL746C   | N/A (Polymer Free)         |
| UL94   | N/A (Polymer Free)         |
| <b>Canadian Standards Association (CSA) approval</b>         | <b>Yes</b>                 |
| Environmental  | Type 3/12                  |
| <b>KEMA (Arc-Testing)</b>                                    |                            |
| ANSI C37.20.7  | 50 kA for 30 cycles @60 Hz |
| EEMACS 14-1 Type-B   | 40 kA for 30 cycles @60 Hz |
| <b>ASTA (Arc-Testing)</b>                                    |                            |
| IEC 62271  | 20 kA for 5 cycles @50 Hz  |
| <b>TUV</b>   |                            |
| Cyclic humidity withstand                                    | Yes                        |
| Vibration withstand  | Yes                        |
| <b>NEMKO</b>   |                            |
| Resistance of insulating materials to 100°                   | Yes                        |
| Resistance of insulating material to ball pressure (Brinell) | Yes                        |
| Glow-wire test 650 °C  | Yes                        |
| <b>Lloyds Register</b>                                       |                            |
| Up to 11 kV marine switchgear, indoor or outdoor             | Yes                        |

## General specifications

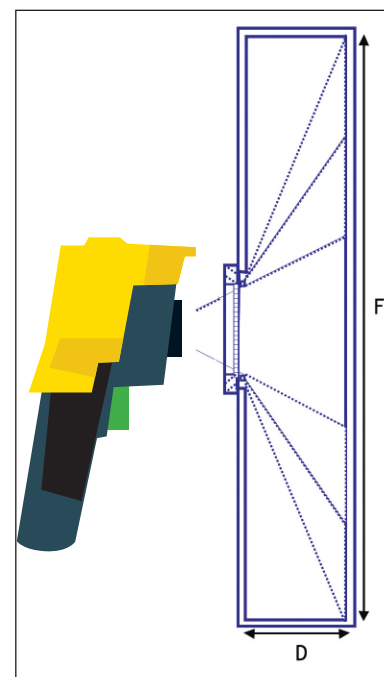
|                            |  |
|----------------------------|--|
| <b>Maximum temperature</b> | Gaskets: 250 °C (482 °F)                           |
|                            | Body: 659 °C (1219 °F)                             |
|                            | Optic: 1400 °C (2552 °F)                           |
| <b>Gaskets</b>             | Low smoke and fume (LSF) compliant silicone        |
| <b>IP rating</b>           | IP65   |
| <b>NEMA rating</b>         | Type 3/12 (UL and CSA Third Party Certified)       |
| <b>Vibration rating</b>    | IEC60068-2-6                                       |
| <b>Humidity rating</b>     | IEC60068-2-3                                       |
| <b>Pull-out strength</b>   | Up to 630 kg (1388 lb)                             |
| <b>Warranty</b>            | Lifetime replacement against manufacturing defects |

## Ordering information

| Crystal insert size               | 50 mm (2 in)            | 75 mm (3 in)            | 100 mm (4 in)           |
|-----------------------------------|-------------------------|-------------------------|-------------------------|
|                                   | 3460346<br>FLK-050-CLKT | 3460387<br>FLK-075-CLKT | 3460439<br>FLK-100-CLKT |
| <b>Kwik-twist aluminium cover</b> | KT                      | KT                      | KT                      |

### Included with product

IR Windows are supplied complete, assembled and ready for installation. In addition to the IR Window each carton contains an installation CD, self-adhesive drilling template, security access key, warranty statement.



Basic Field of View (FOV) calculation,  $F = 6 \times D$

**Fluke.** *Not just infrared.*  
*Infrared you can use.*™

**Fluke Corporation**  
PO Box 9090, Everett, WA 98206 U.S.A.

**Fluke Europe B.V.**  
PO Box 1186, 5602 BD  
Eindhoven, The Netherlands

**For more information call:**  
In the U.S.A. (800) 443-5853 or  
Fax (425) 446-5116  
In Europe/M-East/Africa +31 (0) 40 2675 200 or  
Fax +31 (0) 40 2675 222  
In Canada (800)-36-FLUKE or  
Fax (905) 890-6866  
From other countries +1 (425) 446-5500 or  
Fax +1 (425) 446-5116  
Web access: <http://www.fluke.com>

©2009-2010 Fluke Corporation.  
Specifications subject to change without notice.  
Printed in U.S.A. 7/2010 3504172D D-EN-N

**Modification of this document is not permitted  
without written permission from Fluke Corporation.**

## CLKT C-Range Infrared Window for outdoor applications

## Technical Data

### Increase the safety and speed of electrical thermography

If you are concerned about arc-flash but wish to continue with your infrared thermography program, infrared windows are the answer. These arc-resistant, outdoor certified, infrared windows allow thermal, ultraviolet, visual and fusion technologies to be used without exposing personnel to live equipment.



All infrared windows from Fluke use the unique Quadraband™ multispectral optic, allowing inspection with any camera for total flexibility both now and in the future.

- Engineered and tested to withstand electric-arcs up to 50 kA for 30 cycles.
- Certified by UL & CSA for Type 3/12 (Outdoor) environments in North America and Canada, the C-Range windows are tested to withstand the long term aging effects of UV exposure.
- Certified by SIRA Certification IP65 (Outdoor) environments in Europe.
- The CLIRVU® coating—exclusive to Fluke Windows—seals the optic prior to assembly to protect against moisture degradation.
- Own a Fluke Camera? The Quadraband™ optic is IR-Fusion® compatible, allowing the thermographer to see potential problems in visual light and thermographic mode.
- Got more than one window per panel? Each C-Range window is delivered with an identification plate attached for unique, on-site numbering for rapid location confirmation and faster repairs.
- Each infrared window comes complete with a security access key, installation instructions and self-adhesive drilling template.



Exclusive to Fluke IR Windows, allows you to inspect your equipment with four different types of cameras. Provides maximum flexibility to upgrade or swap out inspection cameras without any IR Window replacement. No other IR Windows manufacturer gives you that flexibility.



Clirvu II Quadraband™

### AutoGround™

Automatically grounds at installation for maximum safety and compliance. No additional steps or testing is required. Only available on Fluke IR Windows.



AutoGrounding™

## Detailed specifications

|                                  | 3460346 FLK-050-CLKT              | 3460387 FLK-075-CLKT              | 3460439 FLK-100-CLKT              |
|----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| <b>Optic data</b>                |                                   |                                   |                                   |
| <b>Crystal insert diameter</b>   | 50 mm (1.97 in)                   | 75 mm (2.96 in)                   | 100 mm (3.94 in)                  |
| <b>Viewing aperture diameter</b> | 43 mm (1.7 in)                    | 68 mm (2.7 in)                    | 89 mm (3.5 in)                    |
| <b>Viewing aperture area</b>     | 1452 mm <sup>2</sup> (2.25 sq in) | 3632 mm <sup>2</sup> (5.63 sq in) | 6322 mm <sup>2</sup> (9.79 sq in) |
| <b>Thickness</b>                 | 2 mm (0.08 in)                    | 2 mm (0.08 in)                    | 4 mm (0.16 in)                    |
| <b>CLIRVU coating</b>            | Yes                               |                                   |                                   |
| <b>Shortwave IR capable</b>      | Yes                               |                                   |                                   |
| <b>Midwave IR capable</b>        | Yes                               |                                   |                                   |
| <b>Longwave IR capable</b>       | Yes                               |                                   |                                   |
| <b>Ultraviolet (UV) capable</b>  | Yes                               |                                   |                                   |
| <b>Visual capable</b>            | Yes                               |                                   |                                   |
| <b>Fusion capable</b>            | Yes                               |                                   |                                   |

### Why is available area important?

Understanding the difference between “Optic Diameter” and “Available Area” gives the thermographer a measure of how much infrared energy is passing through the window. The more energy, the better the reading. The entire area of a crystal IR Window is available for infrared transmission for optimum repeatable results.

Mesh grids may have a larger “optic diameter” but the grid itself blocks the IR signal. The amount of radiation available to the camera via mesh windows is significantly reduced and the signal may be irregular.

|  |                            |
|--|----------------------------|
| <b>Underwriters Laboratories (UL) recognized</b>             | <b>Yes</b>                 |
| UL50 environmental   | Type 3/12                  |
| UL746C   | N/A (Polymer Free)         |
| UL94   | N/A (Polymer Free)         |
| <b>Canadian Standards Association (CSA) approval</b>         | <b>Yes</b>                 |
| Environmental  | Type 3/12                  |
| <b>KEMA (Arc-Testing)</b>                                    |                            |
| ANSI C37.20.7  | 50 kA for 30 cycles @60 Hz |
| EEMACS 14-1 Type-B   | 40 kA for 30 cycles @60 Hz |
| <b>ASTA (Arc-Testing)</b>                                    |                            |
| IEC 62271  | 20 kA for 5 cycles @50 Hz  |
| <b>TUV</b>   |                            |
| Cyclic humidity withstand                                    | Yes                        |
| Vibration withstand  | Yes                        |
| <b>NEMKO</b>   |                            |
| Resistance of insulating materials to 100°                   | Yes                        |
| Resistance of insulating material to ball pressure (Brinell) | Yes                        |
| Glow-wire test 650 °C  | Yes                        |
| <b>Lloyds Register</b>                                       |                            |
| Up to 11 kV marine switchgear, indoor or outdoor             | Yes                        |

## General specifications

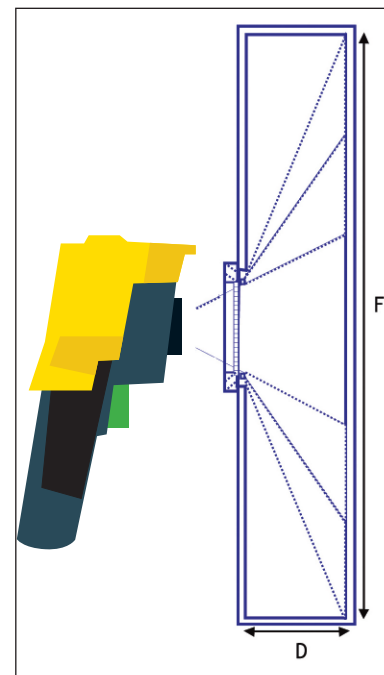
|                            |  |
|----------------------------|--|
| <b>Maximum temperature</b> | Gaskets: 250 °C (482 °F)                           |
|                            | Body: 659 °C (1219 °F)                             |
|                            | Optic: 1400 °C (2552 °F)                           |
| <b>Gaskets</b>             | Low smoke and fume (LSF) compliant silicone        |
| <b>IP rating</b>           | IP65   |
| <b>NEMA rating</b>         | Type 3/12 (UL and CSA Third Party Certified)       |
| <b>Vibration rating</b>    | IEC60068-2-6                                       |
| <b>Humidity rating</b>     | IEC60068-2-3                                       |
| <b>Pull-out strength</b>   | Up to 630 kg (1388 lb)                             |
| <b>Warranty</b>            | Lifetime replacement against manufacturing defects |

## Ordering information

| Crystal insert size               | 50 mm (2 in)            | 75 mm (3 in)            | 100 mm (4 in)           |
|-----------------------------------|-------------------------|-------------------------|-------------------------|
|                                   | 3460346<br>FLK-050-CLKT | 3460387<br>FLK-075-CLKT | 3460439<br>FLK-100-CLKT |
| <b>Kwik-twist aluminium cover</b> | KT                      | KT                      | KT                      |

### Included with product

IR Windows are supplied complete, assembled and ready for installation. In addition to the IR Window each carton contains an installation CD, self-adhesive drilling template, security access key, warranty statement.



Basic Field of View (FOV) calculation,  $F = 6 \times D$

**Fluke.** *Not just infrared.*  
*Infrared you can use.*™

**Fluke Corporation**  
PO Box 9090, Everett, WA 98206 U.S.A.

**Fluke Europe B.V.**  
PO Box 1186, 5602 BD  
Eindhoven, The Netherlands

**For more information call:**  
In the U.S.A. (800) 443-5853 or  
Fax (425) 446-5116  
In Europe/M-East/Africa +31 (0) 40 2675 200 or  
Fax +31 (0) 40 2675 222  
In Canada (800)-36-FLUKE or  
Fax (905) 890-6866  
From other countries +1 (425) 446-5500 or  
Fax +1 (425) 446-5116  
Web access: <http://www.fluke.com>

©2009-2010 Fluke Corporation.  
Specifications subject to change without notice.  
Printed in U.S.A. 7/2010 3504172D D-EN-N

**Modification of this document is not permitted  
without written permission from Fluke Corporation.**