

# ANTENNA COUPLER UX SERIES

## THE IDEAL BARRIER FOR ALL APPLICATIONS AT MEDIUM/HIGH FREQUENCIES



Solexy's Patented (7,057,577) explosion-proof antenna coupler allows the installation of non-EX certified antennas in hazardous areas.

The UX coupler is designed to be used directly with listed explosion-proof housings or conduit fittings.

An integrated blocking circuit prevents hazardous energy from reaching the antenna if a radio, a modem or an access point failure occurs. It also allows for antenna removal in hazardous areas without turning off the device.

The coupler's smart design allows for connection to almost any radio system and its antennas, regardless of the radio protocol used. It is a highly flexible and cost effective solution to hazardous area radio deployment. The couplers act as a cable bulkhead as well, not taking any space inside the enclosure.

Fitting is approved for hazardous location and can be installed with a simple wrench avoiding any kind of sealing fittings.



### SHORT CIRCUIT PROTECTION

Includes integrated blocking circuitry.

### ENVIRONMENTAL PROTECTION

All required circuitry is recessed into the fitting and encapsulated against harsh environments.

### FLEXIBILITY AND NO SEALING FITTING REQUIRED

Permits a wide variety of passive antennas to be installed in hazardous locations, Antenna may be removed and/or installed with power on. Can be screwed directly in the enclosure and works perfectly as a cable bulkhead connection.

### CERTIFICATIONS

The UX series is certified ATEX, IECEx, cQPS (USA & Canada), INMETRO (Brazil), JPN EX (Japan) as an apparatus, and therefore can be installed per the conditions of acceptability, without further assessment.

North America approval includes Class & Divisions and Zones.

IECEx certification is issued from an Australian notified body, therefore making the barrier suitable for Queensland mines installations.

### EXTENDED FREQUENCY RANGE

The UX series covers a wide range of frequencies with only one version, starting from 300 MHz going up to 9GHz, with minimal insertion losses across the its entire frequency range.

# APPROVALS



## ATEX / IECEx CERTIFICATION

Zone 1, 2, 21 & 22

Ex I M2 (M1) Ex db mb [ia Ma] I Mb; Ex II 2 (1) G Ex db mb [ia Ga] IIA/IIB/IIC T5...T6 Gb; Ex II 2 (1) D Ex mb tb [ia Da] IIIC T80°C...T100°C Db  
Ex db mb [ia Ma] I Mb; Ex db mb [ia Ga] IIA/IIB/IIC T5...T6 Gb; Ex mb tb [ia Da] IIIC T80°C...T100°C

## USA & CANADA CERTIFICATION

Class I, Div 1, GROUP ABCD; CI II, Div 1, GROUP EFG; [Ex ia Ga] IIC; [Ex ia Da] IIIC; CI I, Zone 1, AEx db mb [ia Ga] IIA/IIB/IIC T6...T5 Gb; Zone 21, AEx mb tb [ia Da] IIIC T80°C...T100°C Db; Ex db mb [ia Ga] IIA/IIB/IIC T6...T5 Gb; Ex mb tb [ia Da] IIIC T80°C...T100°C Db

## INMETRO CERTIFICATION

Zone 1, 2, 21 & 22

Ex db mb [ia Ma] I Mb; Ex db mb [ia Ga] IIA/IIB/IIC T6...T5 Gb; Ex mb tb [ia Da] IIIC T80°C...T100°C Db

## JPN CERTIFICATION

Zone 1, 2, 21 & 22

Ex db mb [ia Ma] I Mb; Ex db mb [ia Ga] IIA/IIB/IIC T6...T5 Gb; Ex mb tb [ia Da] IIIC T80°C...T100°C Db

# CONFIGURATION



UX **N** **3** **S** **02** **00** **H** **XN**  
**a** **b** **c** **d** **e** **f** **g**

### a - Antenna side connector

N N Female  
F RP-SMA Female  
S SMA Female

### b - Thread

3 3/4" NPT  
M M25x1.5

### c - Material

S Stainless steel AISI 303  
L Stainless steel AISI 316L

### d - Radio side connector

02 RP-SMA Female  
04 SMA Female  
50 MCX Female

### e - Integrated coax lenght (radio side)

00 no cable (dual connector layout with connector on body)

### f - Frequency range

H Optimized from 300 MHz to 9 GHz

### g - Certification

X0 ATEX/IECEx zone 1/21 apparatus  
N0 North America Class I & Div 1 apparatus  
XN ATEX/IECEx zone 1/21 and North America Class I & Div 1 apparatus  
B0 INMETRO zone 1/21 apparatus  
XJ Japan/ATEX/IECEx zone 1/21 apparatus

# AVAILABLE ACCESSORIES

## HEAVY DUTY ANTENNAS

Heavy duty antennas, available with different frequencies and layout.  
Already evaluated for installation in classified area

## COAX CABLE EXTENSIONS

Coax cable with custom connectors and lenght to connect barrier to radio device or to remote mounted antennas



# SPECIFICATIONS

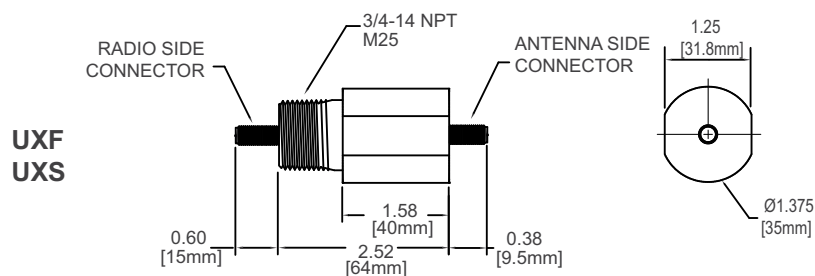
| GENERAL                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|-------------------------|--------------------------------|-------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|---------------------------------|--------------------------|--------------------------------|-------------------------|-------------------------|----------------------|----------------------------|---------------------|--------------------------|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----------|------|------|------|------|------|----|------|------|------|------|------|------|
| ATEX certification                 | <p>nr. TÜV CY 18 ATEX 0206158 X</p> <p>Standards:<br/>EN IEC 60079-0:2018, EN 60079-11:2012, EN 60079-31:2014, EN 60079-1:2014, EN 60079-18:2015/A1:2017</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| IECEx certification                | <p>nr. IECEx MSC 19.0001X</p> <p>Standards:<br/>IEC 60079-0:2017, IEC 60079-11:2011, IEC 60079-31:2022-01, IEC 60079-1:2014-06, IEC 60079-18:2017</p> <p>Suitable for Queensland mines</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| North America certification        | <p>nr. LT1504-3R2</p> <table><tr><td>CAN/CSA C22.2 No. 60079-0:2015</td><td>UL 60079-0, edition 6.0</td></tr><tr><td>CAN/CSA C22.2 No. 60079-1:2016</td><td>UL 60079-1, edition 7.0</td></tr><tr><td>CAN/CSA C22.2 No. 60079-11:2014</td><td>UL 60079-11, edition 6.0</td></tr><tr><td>CAN/CSA C22.2 No. 60079-18:2016</td><td>UL 60079-18, edition 4.0</td></tr><tr><td>CAN/CSA C22.2 No. 60079-31:2015</td><td>UL 60079-31, edition 2.0</td></tr><tr><td>CAN/CSA C22.2 No. 60950-1:2007</td><td>UL 60950-1, edition 2.0</td></tr><tr><td>CAN/CSA C22.2 No. 25-17</td><td>UL 1203, edition 5.0</td></tr><tr><td>CAN/CSA C22.2 No. 30-M1986</td><td>UL 913, edition 8.0</td></tr><tr><td>CAN/CSA C22.2 No. 157-92</td><td>UL 508, edition 17*</td></tr></table> | CAN/CSA C22.2 No. 60079-0:2015 | UL 60079-0, edition 6.0 | CAN/CSA C22.2 No. 60079-1:2016 | UL 60079-1, edition 7.0 | CAN/CSA C22.2 No. 60079-11:2014 | UL 60079-11, edition 6.0 | CAN/CSA C22.2 No. 60079-18:2016 | UL 60079-18, edition 4.0 | CAN/CSA C22.2 No. 60079-31:2015 | UL 60079-31, edition 2.0 | CAN/CSA C22.2 No. 60950-1:2007 | UL 60950-1, edition 2.0 | CAN/CSA C22.2 No. 25-17 | UL 1203, edition 5.0 | CAN/CSA C22.2 No. 30-M1986 | UL 913, edition 8.0 | CAN/CSA C22.2 No. 157-92 | UL 508, edition 17* |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| CAN/CSA C22.2 No. 60079-0:2015     | UL 60079-0, edition 6.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| CAN/CSA C22.2 No. 60079-1:2016     | UL 60079-1, edition 7.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| CAN/CSA C22.2 No. 60079-11:2014    | UL 60079-11, edition 6.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| CAN/CSA C22.2 No. 60079-18:2016    | UL 60079-18, edition 4.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| CAN/CSA C22.2 No. 60079-31:2015    | UL 60079-31, edition 2.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| CAN/CSA C22.2 No. 60950-1:2007     | UL 60950-1, edition 2.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| CAN/CSA C22.2 No. 25-17            | UL 1203, edition 5.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| CAN/CSA C22.2 No. 30-M1986         | UL 913, edition 8.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| CAN/CSA C22.2 No. 157-92           | UL 508, edition 17*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| INMETRO certification              | <p>nr. CPEx 22.0953 X</p> <p>Standards:<br/>IEC 60079-0:2020, IEC 60079-11:2013, IEC 60079-31:2022, IEC 60079-1:2016, IEC 60079-18:2020</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| Japan certification                | <p>nr. CML 23JPN1169X</p> <p>Standards:<br/>IEC 60079-0:2017, IEC 60079-11:2011, IEC 60079-31:2022-01, IEC 60079-1:2014-06, IEC 60079-18:2017</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| Maximum fault voltage              | 250VDC, 250VAC 50-60 Hz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| Typical insertion loss @ 20°C (dB) | <table><tr><td>Frequency</td><td>433</td><td>900</td><td>1.9</td><td>2.4</td><td>3</td><td>3.5</td><td>4.6</td><td>5.8</td><td>6</td><td>7</td><td>8</td><td>9</td></tr><tr><td></td><td>MHz</td><td>MHz</td><td>GHz</td><td>GHz</td><td>GHz</td><td>GHz</td><td>GHz</td><td>GHz</td><td>GHz</td><td>GHz</td><td>GHz</td><td>GHz</td></tr><tr><td>H version</td><td>-1.2</td><td>-0.9</td><td>-0.5</td><td>-0.4</td><td>-0.9</td><td>-1</td><td>-0.5</td><td>-1.1</td><td>-0.9</td><td>-1.1</td><td>-1.7</td><td>-2.8</td></tr></table>                                                                                                                                                                                                                         | Frequency                      | 433                     | 900                            | 1.9                     | 2.4                             | 3                        | 3.5                             | 4.6                      | 5.8                             | 6                        | 7                              | 8                       | 9                       |                      | MHz                        | MHz                 | GHz                      | GHz                 | GHz | GHz | GHz | GHz | GHz | GHz | GHz | GHz | H version | -1.2 | -0.9 | -0.5 | -0.4 | -0.9 | -1 | -0.5 | -1.1 | -0.9 | -1.1 | -1.7 | -2.8 |
| Frequency                          | 433                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 900                            | 1.9                     | 2.4                            | 3                       | 3.5                             | 4.6                      | 5.8                             | 6                        | 7                               | 8                        | 9                              |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
|                                    | MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | MHz                            | GHz                     | GHz                            | GHz                     | GHz                             | GHz                      | GHz                             | GHz                      | GHz                             | GHz                      | GHz                            |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| H version                          | -1.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | -0.9                           | -0.5                    | -0.4                           | -0.9                    | -1                              | -0.5                     | -1.1                            | -0.9                     | -1.1                            | -1.7                     | -2.8                           |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| Approximate weight                 | 0,32 Kg (0,70lb)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| NEMA rating                        | Provides a NEMA 4X when connected to a NEMA 4X rated enclosure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| Impedance                          | 50 Ω                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |
| Ambient temperature range          | <p>-40°C (-40°F) to +85°C (+185°F) if max RF input = 7W (T5)</p> <p>-40°C (-40°F) to +75°C (+167°F) if max RF input = 7W (T6)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                |                         |                                |                         |                                 |                          |                                 |                          |                                 |                          |                                |                         |                         |                      |                            |                     |                          |                     |     |     |     |     |     |     |     |     |           |      |      |      |      |      |    |      |      |      |      |      |      |

Data contained in this specification are subject to change without notice

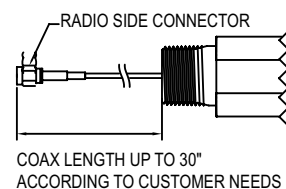
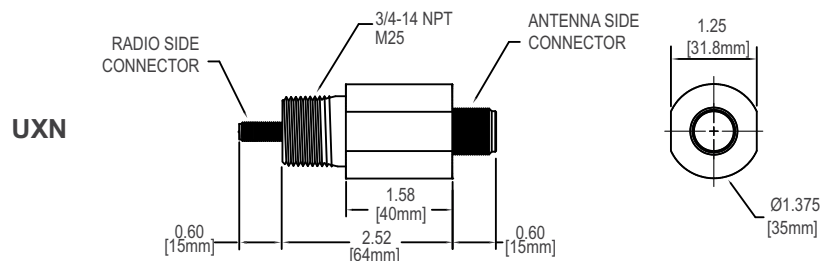


# DIMENSIONAL DRAWINGS

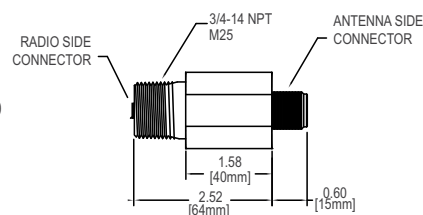
In inches



UX Series with  
coax cable embedded  
(optional execution on request)



**UXN...50**



## INSTALLATION EXAMPLE

The barrier stays outside the enclosure not taking any space inside of it and generating a little offset of the antenna from the housing to provide better radio performances



Data contained in this specification are subject to change without notice





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