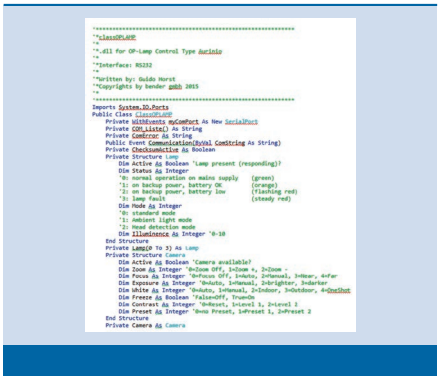
Software module "Trilux"

to control and visualise Trilux operating theatre lights and camera systems

```
'*****************************************************************
'*classOPLAMP
'*
'*.dll for OP-Lamp Control Type Aurinio
'*
'*Interface: RS232
'*
'*Written by: Guido Horst
'*Copyrights by bender gmbh 2015
'*
'*****************************************************************
Imports System.IO.Ports
Public Class ClassOPLAMP
    Private WithEvents myComPort As New SerialPort
    Private COM_Liste() As String
    Private ComError As String
    Public Event Communication(ByVal ComString As String)
    Private ChecksumActive As Boolean
    Private Structure Lamp
        Dim Active As Boolean 'Lamp present (responding)?
        Dim Status As Integer
        '0: normal operation on mains supply    (green)
        '1: on backup power, battery OK         (orange)
        '2: on backup power, battery low        (flashing red)
        '3: lamp fault                          (steady red)
        Dim Mode As Integer
        '0: standard mode
        '1: Ambient light mode
        '2: Head detection mode
        Dim Illuminence As Integer '0-10
    End Structure
    Private Lamp(0 To 3) As Lamp
    Private Structure Camera
        Dim Active As Boolean 'Camera available?
        Dim Zoom As Integer '0=Zoom Off, 1=Zoom +, 2=Zoom -
        Dim Focus As Integer '0=Focus Off, 1=Auto, 2=Manual, 3=Near, 4=Far
        Dim Exposure As Integer '0=Auto, 1=Manual, 2=brighter, 3=darker
        Dim White As Integer '0=Auto, 1=Manual, 2=Indoor, 3=Outdoor, 4=OneShot
        Dim Freeze As Boolean 'False=Off, True=On
        Dim Contrast As Integer '0=Reset, 1=Level 1, 2=Level 2
        Dim Preset As Integer '0=no Preset, 1=Preset 1, 2=Preset 2
    End Structure
    Private Camera As Camera
```

Software module "Trilux"

to control and visualise Trilux operating theatre lights and camera systems



Characteristics

- Parallel operation for controlling of the light of type: Aurinio-PM-OP light
- Communication via wireless network
- Interface converter external, not installed in the panel

Application

The software module can be used to operate operating theatre lights from TRILUX Medical GmbH + Co. KG via the graphical user interface of the Touch Control Panel (TCP) in parallel to the main operating theatre light control.

Up to four Aurinio-PM operating theatre lights or up to three operating theatre lights and one integrated camera can be controlled via the Trilux RS232-interface converter.

Functional description

An RS-232 interface allows the control between the TCP and the interface converter. The connection between the interface converter and operating theatre light is provided by an ISM 2.4 GHz wireless connection.

The interface converter must be installed outside the Touch Control Panel (TCP) (e.g. under the ceiling) in order to guarantee reliable radio contact.

The software module is a Dynamic Link Library (DLL) which is integrated in the operating system of the TCP.

The software module can be controlled by simple clicking/operation of using the respective graphics.

Depending on the type of OT light, the following functions can be controlled:

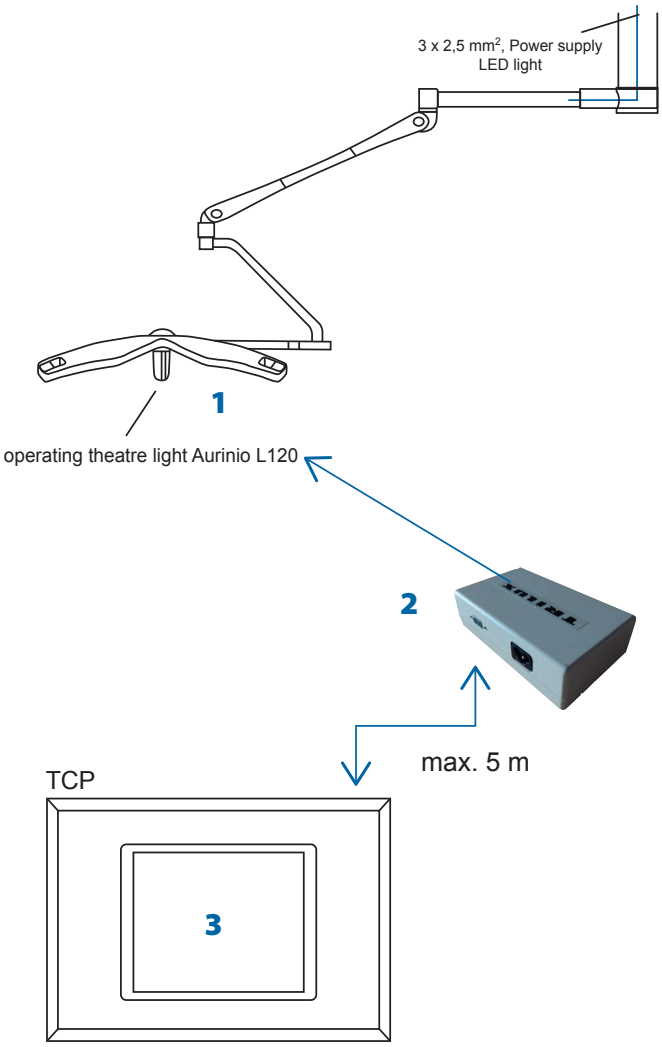
- Switching the luminaire ON/OFF
- Light intensity 5 levels
- Colour temperature + endoscopy mode (not available for L160)
- Synchronisation mode
- Camera control optional

For a detailed description of the light function, refer to the documentation of TRILUX Medical GmbH & Co. KG

Special features

The installed operating theatre lights has to be manually assigned once to the logic operating theatre lights in the visualisation. The maximum length of the RS-232 cable must not exceed 5 m. The interface converter cannot be integrated in a control and indicator panel due to the damped radio communication.

System overview



Components

The interface converter (2) is designed to operate the functions of the lighting systems L120, LR150 and L160 as well as the optional camera system in a light via the user interface of the visualisation on the TCP (3).

1 - Aurinio L120 (scope of delivery Trilux)
camera system optional (scope of delivery Trilux)

2 - Interface converter incl. 230 V supply cable,
RS-232 interface cable (scope of delivery Trilux)

3 - TCP Touch Control Panel
(scope of delivery Bender)

The operating theatre lights including the supporting arms, the camera and the interface converter are not included in the scope of delivery of Bender and must be provided by the customer.

The interface converter must not be installed into the enclosure of the TCP in order to guarantee a reliable wireless connection. The maximum length of the RS-232 cable must not exceed 5 m.

The dimensions of the converter are:
WxHxD: 158 x 45 x 94 mm

BENDER
The Power in Electrical Safety©

Bender GmbH & Co. KG
Postbox 1161 • 35301 Gruenberg • Germany
Londorfer Straße 65 • 35305 Grünberg • Germany
Tel.: +49 6401 807-0 • Fax: +49 6401 807-259
E-mail: info@bender.de • www.bender.de

BENDER Group

Visu-Trilux-OP-L_D00255_00_D_XXEN / 07.2015 / pdf / © Bender GmbH & Co. KG, Germany – Subject to change! The specified standards take into account the version that was valid at the time of printing.