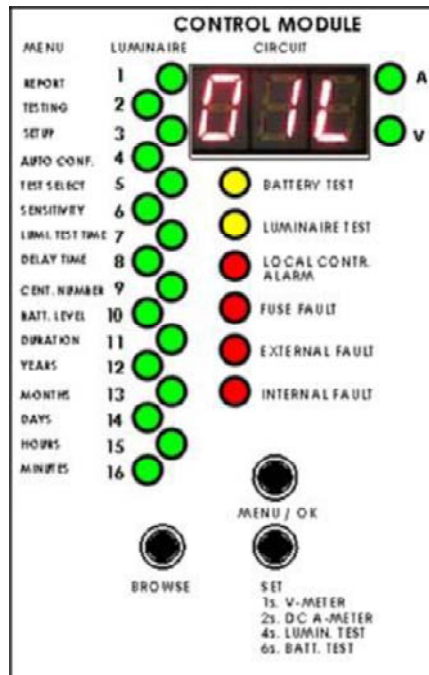


## DATA SHEET CONTROL MODULE



### FEATURES:

- AUTOMATIC/MANUAL LUMINAIRE AND BATTERY TESTS (USER SELECTABLE)
- USER ADJUSTABLE SWITCHING DELAY FROM BATTERY TO MAINS USE
- LUMINAIRE FAILURE DETECTION
- FUSE FAILURE DETECTION
- PROVIDES USER INTERFACE

<b>TYPE:</b>	<b>XST2502</b>	
<b>ELECTRICAL CHARACTERISTICS:</b>		
INPUT VOLTAGE	NOMINAL	21 VDC
	MIN-MAX	18...32VDC
<b>MECHANICAL CHARACTERISTICS:</b>		
MATERIAL OF THE PC-BOARD:	FR-4	
MATERIAL OF THE CASING:	NO CASING	
CONNECTORS:	BLOCK CONNECTORS 1.5mm <sup>2</sup>	
<b>ENVIRONMENTAL CONDITIONS:</b>		
AMBIENT TEMPERATURE RANGE (CONTINUOUS OPERATION):	+10°C ... +50°C	
AMBIENT TEMPERATURE RANGE (STORAGE):	-40°C ... +70°C	

### Operation of the Control Module

The functions are accessed by the menu structure. The green LEDs on the LED column show the basic menu option and the number display shows the sub-options or values of it. The menu functions of LEDs 1 and 2 are so-called basic functions. All other functions are related to the settings of the central battery unit. The latter do not need to be changed in normal use. When the menu functions are used, the central battery unit returns to normal mode if no functions are used for two minutes. All functions can also be done via Bus interface using centralized management software.

### Normal Status of the Control Module

In normal status the number display rotates the information of all circuits connected to the central battery unit. In addressable monitoring the display will show the number of the circuit and the LED corresponding to a luminaire will be lit. In circuit monitoring, the LEDs numbered from 16 to 1 will be lit; the bigger the circuit input power, the greater the number of lit LEDs.

The information of each circuit will be shown for about four seconds at a time.

### Control Module panel luminaire monitoring LED's and menu settings

LED	Description	Reason for problem and solution
<b>Number display</b>	Shows the number of the circuit whose luminaires are shown with LEDs 1-16.  If "CC" is flashing on the display, the system has not been configured.	
<b>LEDs 1-16</b>	There are two meanings of these leds: 1. To show information of the luminaires. > How many luminaires installed and address of the luminaires. > Status of the luminaires.  2. To indicate selection in menu > Instructions how to check and change settings from menu are below.	Addressable monitoring: The LEDs display the status of luminaires in the aforementioned circuit. > If the LED is continuously lit, the luminaire is functional. > If the LED is flashing, the luminaire is faulty. > If the LED is not lit, no luminaire has been assigned for that address.  Circuit monitoring: The LED bars display the total input power of the circuit. If the LED or LEDs are flashing during circuit monitoring, an error has been detected in the circuit. See the instructions given for corresponding LEDs.
<b>1 REPORT</b>	Use this option to print out report of the configuration of the central battery unit and the status of the luminaires.  Value 1 = Print a report of all circuits.  Value 2 = Print a report of faulty circuits.  Value 9 = Displays circuit board + circuit number on the display instead of a running number  NOTE: This action requires a printer, which is an optional feature TST6731 or the central battery units of the type Tapsa Control TKT67xxC(N)D(L).	To print a report,  1. Go to the menu with the MENU / OK button.  The REPORT LED is lit.  2. Press the SET button once.  Number 1 will appear in the display.  3. Acknowledge by pressing the MENU / OK button again.  Printing of the report will start.  NOTE: Printing of the reports is blocked during the tests.

<p><b>2 TESTING</b></p>	<p>Use this option to select a test to be started or interrupted.</p> <p>1 = Start of the luminaire test.</p> <p>2 = Interruption of the luminaire test.</p> <p>3 = Start of battery test for 2/3 of the time (the same time as in the automatic test).</p> <p>4 = Start of the battery test for the set operating time (1 or 3 hours).</p> <p>5 = Start of the battery test until the end of its duration – the battery will be discharged.</p> <p>6 = Interruption of the battery test / acknowledging of a battery fault.</p> <p>7 = Stop the local controller function or the BLINK mode.</p> <p>8 = Start the local controller function.</p> <p>9 = Start the BLINK mode.</p> <p>10 = Reconfiguration.</p>	<p>To start or interrupt a test,</p> <ol style="list-style-type: none"> <li>1. Go to the menu with the MENU / OK button.</li> <li>2. Press the BROWSE button until the TESTING led is lit.</li> <li>3. Press the SET button until the value you wish to select shows in the display.</li> </ol> <p>For example 6 = Interrupt the battery test.</p> <p>4. Acknowledge by pressing the MENU / OK button again.</p> <p>The required action begins.</p>
<p><b>3 SETUP</b></p>	<p>Use this option to enable / disable the settings locking to change the operational settings of the central battery unit.</p>	<p>To enable / disable the settings locking,</p> <ol style="list-style-type: none"> <li>1. Go to the menu with the MENU / OK button.</li> <li>2. Press the BROWSE button until the SETUP led is lit.</li> <li>3. Press the SET button to select the correct value (0=locking enabled, 1=locking disabled).</li> <li>4. Press the BROWSE button to acknowledge the selection, and return to the operational settings.</li> </ol> <p>When the settings locking is disabled, you can change the operational settings.</p>

#### 4 AUTO CONF.

Use this option to change the status of the automatic configuration.

When Auto configuration is enabled, the CBU will try to find and add new luminaires during luminaire tests. If Auto configuration is disabled, the CBU will not automatically add new luminaires.

Value 0 = Automatic configuration disabled.

Value 1 = Automatic configuration enabled.

Values 2 and 3 = Not in use.

The default setting is 0 (zero).

NOTE: This function only works in addressable monitoring. If circuit monitoring is chosen, the central battery unit needs to be reconfigured after changing the circuit load.

To change the automatic configuration status,

1. Go to the menu with the MENU / OK button.
2. Press the BROWSE button until the AUTO CONF. led is lit.
3. Press the SET button until the value you wish to select is shown in the display.

The automatic configuration settings are changed.

**5 TEST SELECT**

Use this setting to choose between automatic and manual tests.

**7-segments-display**

> The first section in the 7-segment-display determines every how often the luminaire test is made, from 1 to 7, meaning the number of days. If the number is 1, the test is made every day, or if it is 7, the test is done once a week.

> The number of the second segment determines the settings of the luminaire tests.

0 = Luminaire and battery test, both manually.

1 = Luminaire and battery test, both automatically (presumption).

2 = Luminaire test automatically, battery test manually.

3 = Luminaire test manually, battery test automatically.

The automatic luminaire test is made once per day on the chosen time of the day.

The automatic battery test is made twice a year (4th of January and 4th of July).

To choose between automatic and manual tests,

1. Go to the menu with the MENU / OK button.

2. Press the BROWSE button until the TEST SELECT led is lit.

3. Press the SET button until the value you wish to select shows in the display.

The testing settings have been changed.

**6 SENSITIVITY**

Use this option to set the limit for the current variation, if the central battery unit is set to work in circuit monitoring mode. The setting is +/- 80 mA as a standard.

To define how much the current can change before an alarm is issued,

1. Go to the menu with the MENU / OK button.
2. Press the BROWSE button until the SENSITIVITY led is lit.
3. Choose the current value with the SET button.

As a standard the value is 16 = 160 mA divided by two, which gives +/- 80 mA.

4. Browse with the SET button the value of the current can be changed all the way up to +/- 150 mA.

In the display this shows as the value 30. When the value 30 is exceeded, the following value is the minimum current the change of which the central battery unit notices. The minimum value is +/- 40 mA. In the display this will be shown as the number 8.

NOTE: In parallel connection the current values are multiplied by the number of the parallel connected circuits. 700 W = 2x or 1,400 W = 4x.

**7 LUMI. TEST TIME**

Use this option to choose a time for the automatic luminaire test, in full hours.

To change the luminaire test time,

1. Go to the menu with the MENU / OK button.
2. Press the BROWSE button until the LUMI. TEST TIME led is lit.
3. Press the SET button until the value you wish to select shows in the display.

For example 15 = 15:00 = 3 pm

The luminaire test time has changed.

<p><b>8 DELAY TIME</b></p>	<p>Use this option to select a 0 to 15 minute delay when switching from battery use to mains voltage use.</p> <p>This function works only when the mains supply has failed and then returned. The delay is needed if mercury vapour lamps or similar luminaires whose ignition requires a longer time are used as general luminaires.</p> <p>As a default setting there is no delay. The number display shows the delay in minutes.</p>	<p>To change the delay time,</p> <ol style="list-style-type: none"> <li>1. Go to the menu with the MENU / OK button.</li> <li>2. Press the BROWSE button until the DELAY TIME led is lit.</li> <li>3. Press the SET button until the value you wish to select shows in the display.</li> </ol> <p>The delay time has changed.</p>
<p><b>9 CENT. NUMBER</b></p>	<p>Use this selection to choose an individual number for the central battery unit.</p> <p>The number is printed on the report and so the information on the reports can always be linked to a specific central battery unit, if there are more than one central battery units in the building.</p>	<p>To set an individual number for the unit,</p> <ol style="list-style-type: none"> <li>1. Go to the menu with the MENU / OK button.</li> <li>2. Press the BROWSE button until the CENT. NUMBER led is lit.</li> <li>3. Press the SET button until the value you wish to select shows in the display.</li> </ol> <p>The individual number has been assigned.</p>
<p><b>10 BATT. LEVEL</b></p>	<p>Normally, this value doesn't need to be changed.</p> <p>Use this option to change the level of the battery voltage at which the battery test is stopped.</p> <p>As a default the voltage level is 210 V. Number 10 is programmed to be added in the number 200 programmed, so the voltage will be 210 V. As a default there is number 10 in the display, which means this battery voltage of 210 V. The limit that is reached first ends the test. The time and the end voltage are recorded.</p>	<p>To change the voltage limit for a battery test,</p> <ol style="list-style-type: none"> <li>1. Go to the menu with the MENU / OK button.</li> <li>2. Press the BROWSE button until the BATT. LEVEL led is lit.</li> <li>3. Press the SET button until the value you wish to select shows in the display.</li> </ol> <p>The voltage limit has been changed.</p>

<p><b>11 DURATION</b></p>	<p>Use this option to select a 1 h or 3 h battery mode operating time.</p>	<p>To change the battery mode operating time duration,</p> <ol style="list-style-type: none"> <li>1. Go to the menu with the MENU / OK button.</li> <li>2. Press the BROWSE button until the DURATION led is lit.</li> <li>3. Press the SET button until the value you wish to select shows in the display.</li> </ol> <p>The operating time has been changed.</p>
<p><b>12 YEARS</b></p>	<p>Use this option to set the year. The year is set by selecting the last two digits of the year, 00...50 (e.g. 09 = 2009).</p>	<p>To set the system time and date,</p>
<p><b>13 MONTHS</b></p>	<p>Use this option to set the month. The number of the month is set, 1...12.</p>	<p>1. Go to the menu with the MENU / OK button.</p>
<p><b>14 DAYS</b></p>	<p>Use this option to set the day. The number of the day is set, 1...31.</p>	<p>2. Press the BROWSE button until the right led is lit.</p>
<p><b>15 HOURS</b></p>	<p>Use this option to set the hour. The hours are set, 0...23 (0 = midnight, 12 = midday).</p>	<p>3. Press the SET button until the value you wish to select shows in the display.</p>
<p><b>16 MINUTES</b></p>	<p>Use this option to set the minutes. The minutes are set, 00...59.</p>	<p>4. Acknowledge by pressing the MENU / OK button again. The system time and date have been set.</p>



### Control Module panel test functions and alarms

LED	Description	Reason for problem and solution
<p><b>BATTERY TEST</b></p>	<p>As a basic setting, the battery test is done automatically twice a year: on the 4th of July and on the 4th of January, at 12 pm (midnight).</p> <p>&gt; If the LED is continuously lit, the battery test is in progress.</p> <p>&gt; If the LED is flashing, an error has been detected in the battery test. In this case the External fault LED will also be lit.</p> <p>During the battery duration test, the central battery unit is switched to battery mode and all output circuits are switched on.</p> <p>&gt; If the LEDs Internal fault is lit and Battery test is flashing, the battery duration test has failed.</p> <p>A change of battery always requires a new configuration, so that the software knows a battery has been replaced.</p> <p>The battery test can be started by pressing one button on the control unit interface, or manually using the control unit menu.</p>	<p>No action needed, unless the test fails. If the test fails check condition of batteries</p> <p>To run the battery test yourself, either</p> <ol style="list-style-type: none"> <li>1. Press the BROWSE button for 8 seconds.</li> </ol> <p>or</p> <ol style="list-style-type: none"> <li>1. Press the MENU / OK button.</li> <li>2. Use the BROWSE button to select 2, TESTING.</li> <li>3. Use the SET button to select 3, battery test during 2/3 of the operation time.</li> <li>4. Accept the selection with the MENU / OK button.</li> </ol> <p>The battery test starts.</p>

<p><b>LUMINAIRE TEST</b></p>	<p>If the LED is continuously lit, the luminaire test is in progress.</p> <p>If the LED is flashing with External fault LED, configuration is in progress.</p> <p>Luminaire test must be carried out once in 1-7 days. Factory setting is once a day at midnight (00.00 o'clock).</p>	<p>No action needed, unless the test fails. If the test fails check condition of luminaires.</p> <p>To run the luminaire test yourself, either</p> <ol style="list-style-type: none"> <li>1. Press the BROWSE button for 3 seconds.</li> </ol> <p>or</p> <ol style="list-style-type: none"> <li>1. Press the MENU / OK button.</li> <li>2. Use the BROWSE button to select 2, TESTING.</li> <li>3. Use the SET button to select 1 = Starting the luminaire test.</li> <li>4. Accept the selection with the MENU / OK button.</li> </ol> <p>The luminaire test starts. If a faulty luminaire was found in any of the circuits, its corresponding LED will flash when its circuit number is shown on the display.</p> <p>If luminaire test will not start, check battery voltage level. It must be more than 200 VDC.</p>
<p><b>LOCAL CONTR. ALARM</b></p>	<p>The central battery unit can be remote controlled to send a local controller pulse to all circuits, in which case all the non-maintained addressable luminaires (Teknoware types ending in K, or external luminaires fitted with Teknoware address module) that are connected to the central battery unit are switched on. This feature can be activated by opening loop 68-69.</p> <p>&gt; If the LED is lit, the loop 68-69 is open. &gt; If the LED is blinking slowly, K model luminaires are turned on from the menu with AC voltage.</p>	<p>Check the loop between connectors 68-69.</p>

<b>FUSE FAULT</b>	<p>&gt; If the LED is lit, there is a faulty fuse in the control module.</p> <p>&gt; If the LED is blinking slowly, there is a faulty fuse in the circuit shown on the display.</p> <p>&gt; If the LED is blinking quickly, there is some other fault in the circuit shown on the display.</p>	Check all circuit output fuses.
<b>EXTERNAL FAULT</b>	<p>Alarms when an external fault is detected in the luminaire or the luminaire test has detected an error.</p> <p>If the LED is flashing with Luminaire test LED, configuration is in progress.</p>	Check that all luminaires are working.
<b>INTERNAL FAULT</b>	<p>If the LED is lit continuously, there is a fault in the battery or charging circuit. i.e. the alarm is coming from the Central Module, or the battery test has detected an error.</p> <p>If the LED is flashing, there is a fault in a circuit output fuse or output circuit</p>	Check if battery or charger is faulty. Measure voltage level of batteries. In normal situation it should be 243-255 VDC.

#### Control Module Buttons

<b>MENU / OK</b>	Used for selecting a menu or accepting a selection. Used for starting tests and/or printing.
<b>BROWSE</b>	Used for browsing menus and making selections within the menu.
<b>SET</b>	<p>Used for changing a desired setting in the menu.</p> <p>Press for 3 seconds to start luminaire test.</p> <p>Press for 8 seconds to start battery test.</p>
<b>V-METER, 1 second (until the indicator LED is lit)</b>	Press and hold SET for 1 second: the voltage of the battery is displayed in the LCD display
<b>DC A-METER, 2 second (until the indicator LED is lit)</b>	Press and hold SET for 2 seconds: DC discharge current from the batte
<b>LUMIN. TEST, 4 second (until the indicator LED is lit)</b>	Press and hold SET for 4 seconds: start of the luminaire test
<b>BATT. TEST, 6 second (until the indicator LED is lit)</b>	Press and hold SET for 6 seconds: start of the battery test