



SEARCHLIGHTS

TEF 2650/2655 COMMANDER

SEARCHLIGHT HALOGEN & HRI

SAFE AREA

USER MANUAL

Subject to change without prior notice TUM1094 REV.I 25.05.2023



IMPORTANT

Please read this manual carefully before installing the product.



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SAFETY INSTRUCTIONS

The intense light output may damage eyes when stared directly into the light.

Any type of light source reaches a very high temperature. Do not touch if warm. Never touch with bare skin as this reduces light output.

The motorized searchlight moves both vertically and horizontally. Be aware of any personnel close to the searchlight when testing or operating.

Never use force to move the searchlight head on a motorized unit. This may damage the power train inside the motor unit.

Never open a searchlight head while energized. High voltage is present.

Always wait until light source and other components have cooled before touching any part.

GENERAL WARRANTY CERTIFICATE

Tranberg AS gives normally a general warranty on Tranberg products valid for 12 months from delivery date.

General the products will

- (a) Confirm to the purchase order,
- (b) Be free from liens, claims and encumbrances,
- (c) Be free from failures or defects which may arise from defective design, materials or workmanship.

The warranty is based on that "The assembly- and maintenance instruction", attached with the product, is fulfilled, and does not cover damage caused by misuse or lack of proper maintenance and care.

Regards terms of delivery:

Other agreements than standard terms of delivery are to be in writing.
Official terms of delivery, NL-01 are valid.

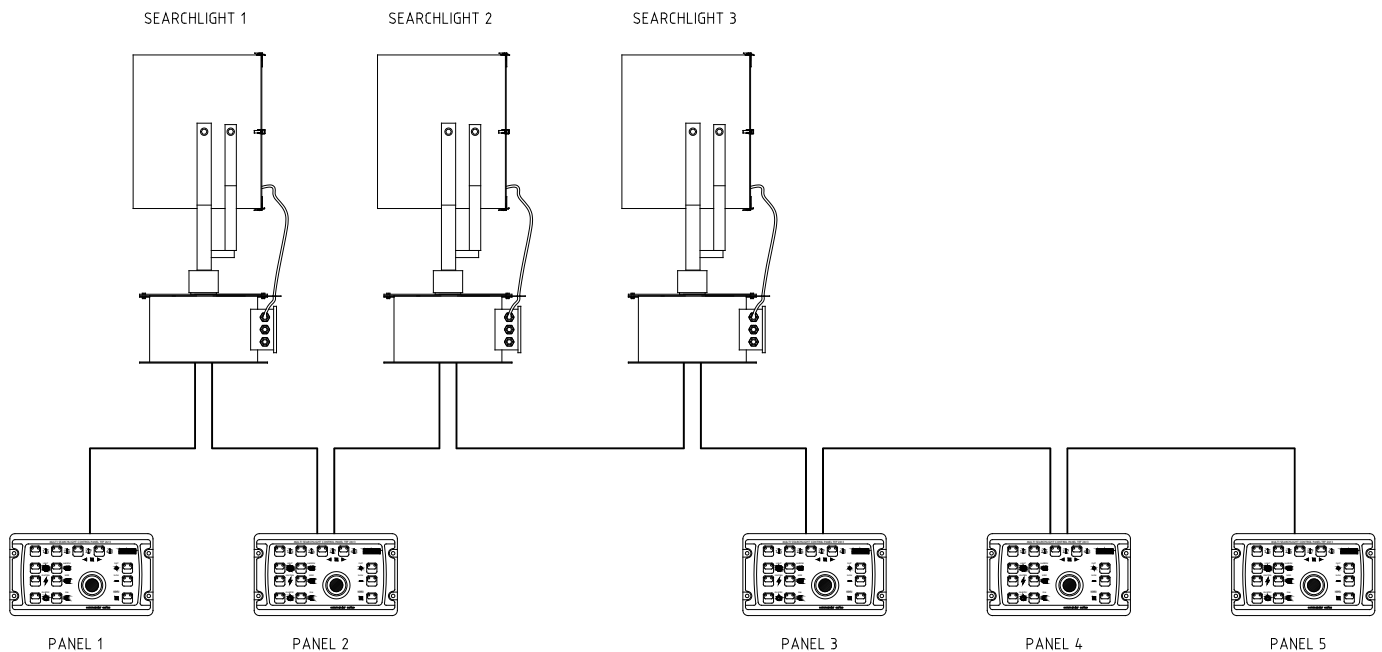
Regarding the bulb, please look at the warranty papers following the bulb. This must be filled in and returned with the bulb to Tranberg AS.

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1. SYSTEM OVERVIEW



600A105424

The Tranberg Commander Searchlight uses a serial communication network to control and monitor the searchlights. This makes it possible to freely choose and combine the number of searchlights and panels. All panels can control all searchlights, one at a time, by using selection buttons on the panel.

The communication network is connected as a bus topology, i.e. the communication cable is connected from unit to unit as a chain. In that way, all units can communicate with every other unit, and can listen to every message sent over the network. Each unit connected to a bus must be uniquely identified by a number (address). This address is set either by thumbwheels, or programmed and stored in internal non-volatile memory.

One of the units has to control the communication on the bus. The unit performing this function is called a master, and in the Commander Searchlight system this function is assigned to the panel with address '0'. When the master is powered up it will check what units are present on the bus by querying each unit. If one unit is not powered up in this phase, and thus does not answer the query, it will be regarded as not-present and will not be able to communicate with the other units on the bus. It is therefore important that all searchlights are powered up before the panels.

SEARCHLIGHT MOTION CONTROL:

The Commander Searchlights are equipped with positional sensors for both motors/axes. This makes it possible to let the searchlight automatically move to pre-defined positions, and also results in a smooth, controlled motion. The searchlights can rotate more than one full revolution, approx. 370°, and the end stop is located at the connection box. The vertical movement is from approx. 20° upwards to approx. 30° downwards.

TYPES OF SEARCHLIGHTS / LIGHT SOURCES:

Available light sources:

- Halogen has a wider, long range beam. Warm-white colour. Is powered directly by 230VAC.
- Xenon has a narrow, extra long range beam. Daylight colour, part of the spectrum is ultraviolet (UV) making it useful for seeing ice (visual ice detection). Needs a separate power supply and cabling.
- HRI (metal-halide) has a high light output with daylight colour, resembling a xenon light. Has some restrictions regarding power on/off timing (reach full light output after 1 – 2 minutes on-time). Needs a separate ballast between 230VAC and lamp.

2. OPERATION

2.1 START-UP PROCEDURE

Power-up: Apply power in the following sequence:

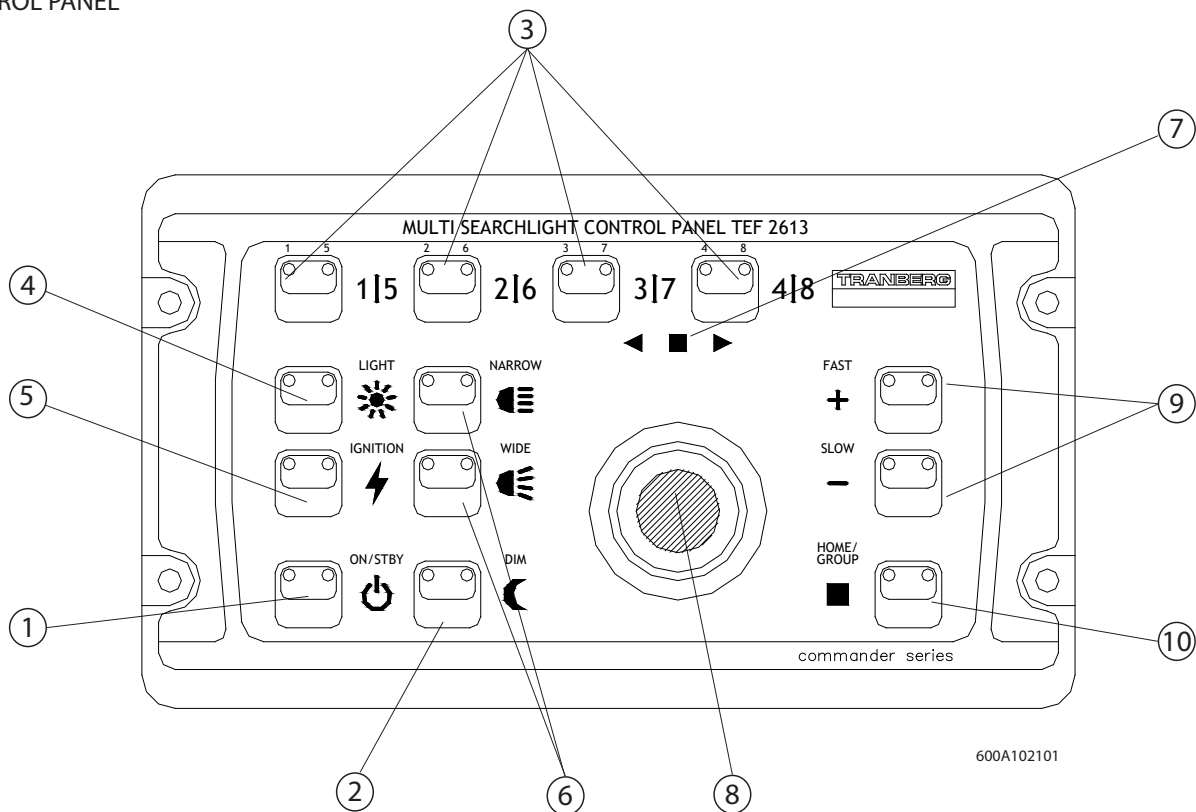
Apply the 230 VAC power to the searchlights first.

Apply the 24 VDC power to the panels next. If the panels have several separate supplies, ensure that the master panel is powered up last. The panels will be in the 'on' mode when powered up.

If, for some reason, this is not possible, please do a manual re-scan as described in chapter 5.2 after all units are powered up.

A searchlight will do a position reference search when powered up and receiving a bus query message from the master panel (a bus re-scan). It will slowly turn to the right and tilt upwards until the end positions is reached. The searchlight will not respond to joystick commands from a panel until it has finished this position search phase (but the light can be turned on and off).

2.2 CONTROL PANEL



GENERAL

Any user can control any searchlight at any time. When the lamp on a searchlight is turned on, it will be indicated in all the other panels by the indicator for that searchlight (In the select buttons) flashing slowly. If the same searchlight is selected from another panel (the select button is pressed), then the other panel gains control over that searchlight, and the first panel will lose its control. As this happens the searchlight will maintain the previous lamp on or off setting, but the speed setting will be dependent on the setting of the new control panel.

When the control panel is turned off, the searchlights last operated from this panel will automatically be turned off.

NOTE: Slow flashing is 1 sec on, 1 sec off. Fast flashing is 2 flashes per second.

1. "ON/STBY" or "POWER" (2612 / 2613 / 2614)

On / Standby button, activates the panel. The backlight will turn on. Press momentarily to turn on, press and hold for 1 sec to go to standby. In standby the panel will turn off all searchlights that was used by that panel. The yellow indicator will light steady if it is a master panel, or flash slowly if it is a slave panel.

2. "DIM" (2612 / 2613 / 2614)

Adjusts the panel backlight level. Press shortly to change level one step, press and hold to change the level to min or max.

3. SEARCHLIGHT SELECT BUTTONS

2613: To select which searchlight you want to operate, press the buttons on the top row. The first is used to select searchlight no. 1 and 5. The first press selects searchlight no. 1, press once more (within a second) to select searchlight no. 5. For the three other buttons works the same way. It is only possible to select searchlights that are connected. The panel may operate up to 8 searchlights and the system will automatically detect the number and addresses of the searchlights that are connected.

2614: To select which searchlight you want to operate, press the buttons on the top row. The first ('A') is used to select searchlight no. 1. The first press selects the first lightsource of searchlight no. 1, press once more (within a second) to select the second lightsource. For the three other buttons it works the same way. It is only possible to select searchlights that are connected. The panel may operate up to 4 searchlights (addresses 1 to 4) and the system will automatically detect the number and addresses of the searchlights that are connected.

2 OPERATION

4. "LIGHT" (2612/2613/2614)

Turn light on or off. A green indicator light will light steady if the lamp is on. Flashes rapidly when the group function is activated.

5. "IGNITION" (2612/2613/2614)

Searchlights produced in 2016 and later:
The searchlight is equipped with an automatic ignition system. This button is – like for the halogen searchlights – not in use.

For searchlights produced before 2016:
Press to ignite the xenon lamp. Activates the ignitor as long as the button is held. Not used for other lamp types. Do not hold for more than 1 second, as this may damage the ignitor. The searchlight has a safety time-out to spare the ignitor and lamp from excessive wear.

6. "NARROW" AND "WIDE" (2612/2613/2614)

Adjusts the lamp focus. Will change the beam from wide to narrow or backwards. Applicable only for searchlights with motor focus. Press and hold to change focus. The focus motor will automatically stop at each end position.

7. POSITION INDICATORS (2612/2613/2614)

Arrow left and right:

Steady light: The searchlight is in the sector left or right for the home position.

Slow flashing: The searchlight is at the normal left or right end position.

Fast flashing: The searchlight has stopped due to mechanical overload or at the end limit switches.

Square:

Steady light: The searchlight is at its horizontal home position.

Slow flashing: The searchlight is at its horizontal and vertical home position.

Fast flashing: The panel has sent a 'set home position' command to the searchlight.

8. JOYSTICK (2612/2613/2614):

Left – right. Up for light downwards, down for light upwards.

| Speed | 1 slow | 2, 3 | 4, 5, 6 | 7, 8 | 9 fast |
|-------|--------|------|---------|------|--------|
| Fast | | | | | |
| Slow | | | | | |

9. "FAST" AND "SLOW" (2612/2613/2614):

Adjust motor speed. 9 Steps, 5 Indications

10. "HOME / GROUP" (2612/2613/2614):

DUAL FUNCTION:

HOME: Move to "home"

If only one searchlight is selected (or has been used from a panel), a short press on this button will command the searchlight to go to its (preset) home-position. A long press (> 5s) will set the searchlight's current position as the new home position for that searchlight.

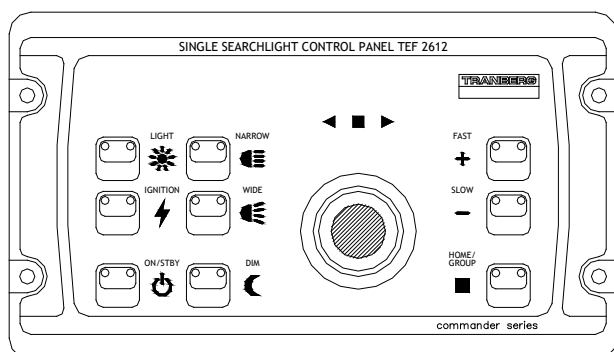
GROUP: Move several searchlights

If two or more searchlights have been turned on from the same panel, a short press on this button will start the group-function. The selected searchlights will then move simultaneously.

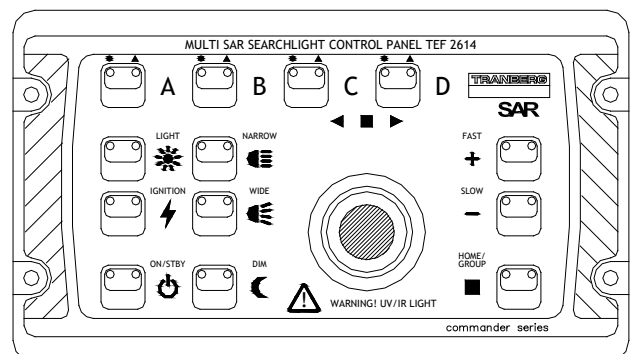
INDICATOR TEST:

- To see if all indicators on the front of the panel are working, proceed as follows:
- Turn off panel with the 'ON/STBY' button.
- Press and hold the 'ON/STBY' button for at least 5 seconds.
- While holding the 'ON/STBY' button, press (and release) the 'DIM' button shortly.
- Release the 'ON/STBY' button. All indicators on the front of the panel will now flash rapidly.
- If joystick or buttons are operated during this test, a corresponding LED (s) will extinguish as long as the button is held.
- Press (and release) shortly the 'ON/STBY' button to exit lamp test mode and to turn on panel.

NOTE: Slow flashing is 1 sec. on, 1 sec. off. Fast flashing is 2 flashes per second.



TEF 2612 Single searchlight control panel



TEF 2614 SAR searchlight control panel

600A102101

3 MAINTENANCE

3.1 CLEANING

PANEL:

The control panel may be cleaned with a mild detergent on any parts.

SEARCHLIGHT:

Keep the searchlight and lens clean. Use only water and soft cloth to clean the searchlight. Clean the front glass / lens only when the light is off and has cooled down. If necessary, clean the mirror using alcohol. Ensure that all remains of the cleaning solvent are removed. Use only a soft cloth to clean the mirror.

3.2 LUBRICATION

The lubrication point at the bottom of the U-pieces should be greased every two years. Use grease which is resistant to temperatures down to -50°C .

3.3 MECHANICAL

Check all external screws on the searchlight periodically and tighten if needed.

Control that the lamphouse moves smoothly and with low friction both horizontally and vertically. Do not overtighten the four bolts in which the lamphouse is hinged, as this may hinder the movement of the searchlight.

Remove build-up of ice on and around the searchlight. The motor unit and the lamphouse optional have both an internally mounted heater to avoid condensation, but it is not designed for de-icing the searchlight.

3.4 ELECTRICAL

SEARCHLIGHT: Clean and inspect the electrical connections to xenon lamp periodically. A layer of oxidation can build up as a result of lamp heating and cooling. Also inspect the other high current connections for bad contacts and overheating.

4 INSTALLATION

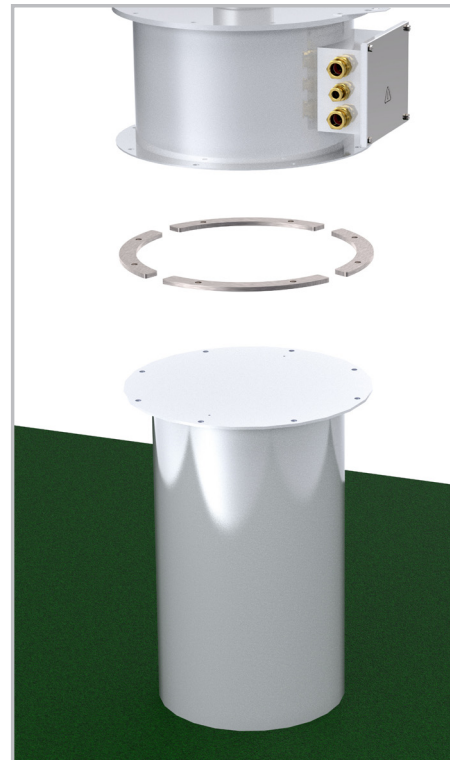
4.1 MECHANICAL INSTALLATION

SEARCHLIGHTS PHYSICAL PLACEMENT:

Consider the end stop of the horizontal movement, the end stop is placed at the connection box, i.e. when the light head is facing in the same direction as the connection box. Also consider if there are sectors which should not be illuminated.

SEARCHLIGHT MOUNTING:

The searchlight is mounted to base with 8 PCS M10 bolts. Please note that the motorhousing is equipped with 2 pcs. $\varnothing 4$ drain holes. For these to have any draining effect, the included TEF 2650 mounting standoff kit (part no: 5024) must be installed between the motorhousing and the base where the searchlight is based (Fig. 1M). For more details on dimensions please see drawing 600A102893 page 21 in this manual.



4.2 ELECTRICAL INSTALLATION - CABLING

CABLING – COMMUNICATION NETWORK:

1. Use 2x twisted pair cable or 1x twisted pair + screen. Characteristic impedance: 100 – 250 ohms. Suitable cables types can be cables made for Profibus, Interbus, Ethernet, Cat5, or similar.
2. The communication network must be connected as a bus topology, i.e. from point to point (unit to unit). No loops or star connections are allowed. (See drawing 600A105539)
3. No end terminations are necessary.
4. Connect A to A, B to B and Ref to Ref. Ref is also called Sh on some units.
5. The order of panels and searchlights along the bus can be freely chosen. Tip: A drawing of the system showing the order and addresses of the units can be of great help if troubleshooting should be necessary.

4 INSTALLATION

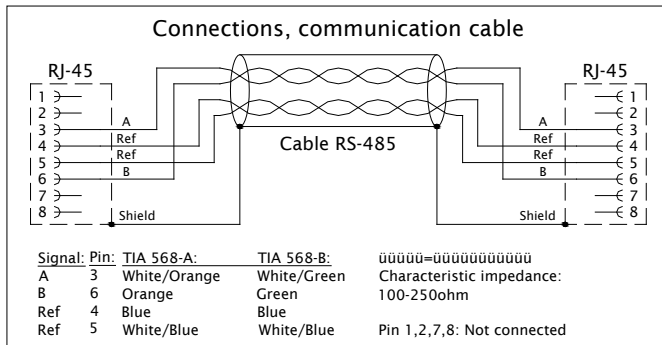
NOTE1:

Keep communication cables away from all power lines.

NOTE2:

Treat / regard Shield/Reference as a signal. It shall under no circumstance be connected to Ground or other Protective Earth potentials.

See technical data for details of communication interface.



600A105512

CABLING - SEARCHLIGHT MAINS (230VAC):

For halogen searchlights both power to the lamp as well as power to the motor unit are supplied through the same cable. Dimension the cable and fusing according to the wattage of the lamp. Note that halogen lamps have a large inrush current at power-up (due to low filament resistance when cold), so a slow fuse with same rating, or a fuse with a higher rating is recommended.

4.3 ELECTRICAL INSTALLATION - SETTINGS

Address settings:

- Each unit (searchlight or panel) must have its own unique address. Panels and searchlights have separate address spaces, i.e. a panel with setting '2' does not interfere with a searchlight set to address '2'.
- The addressed units (panels and searchlights) can be placed freely along the bus, they don't have to be placed according to their address or in any special order.
- The address of searchlights are normally pre-set from factory. See chapter "changing address on searchlight" if changes are needed. The address can also be hardwired by the address-rotary switch in the connection box.

4.4 STARTUP OF SYSTEM

- Check that all connections are correct and no short-circuits or breaks. Check all 230VAC supply lines. Also check the 24VDC supply to the panels and other control modules.
- Turn on power first to the searchlight motor units, then the 24VDC supplies to the panels. If the panels are powered from separate supplies, then first apply power to the slave panels, then to the master panel. Check visually that each searchlight makes a positional scan right after the master panel is powered up. The master panel should now find all searchlights and panels, and be able to communicate with them.
- Check movement and light on /off of all searchlights.

5 SPECIAL PROCEDURES

5.1 IDENTIFYING THE MASTER PANEL

For the following special procedures, the master panel need to be identified.

The master panel can be recognized by the yellow indicator in the power button. When you turn off power by pressing this button, the yellow indicator will be continuously lit in the master panel. It will blink slowly (1 sec. on, 1 sec off) on a slave panel.

5.2 RE-SCAN OF NODES CONNECTED TO THE BUS

If necessary, the master panel can do a bus scan when powered up using the following procedure:

(Note: Do not operate or use any panels or searchlights during this procedure. Ensure that all are powered up.)

- Turn off the master panel using the power button. Release the button. The backlight will turn off.
- Press and hold the power button for at least 5 seconds.
- While holding the power button, press and release the second select button (marked '2/6' (2613) or 'B' (2614)). (Repeat if necessary, until backlight turns on).
- The panel backlight will now turn on, and it will start the scanning of the bus (it takes a couple of seconds).
- Release the power button.
- When the scan process is finished, the panel will show which searchlights are present on the bus by fast flashing the corresponding leds on the select buttons (upper row).
- Turn on the panel by using the power button as usual.
- Repeat the procedure if necessary.

5.3 ALTERNATIVE RE-SCAN PROCEDURE

FOR PANELS DELIVERED FROM APRIL 2009 AND ONWARDS:
If necessary, the master panel can do a bus scan when powered up using the following procedure: A panel can do both this alternate re-scan procedure as well as the previous procedure (ch. 5.1).

(Note: Do not operate or use any panels or searchlights during this procedure. Ensure that all are powered up.)

- Set all panels to standby ("turn off") by using the on/stdby button. The backlight will turn off. Locate the master panel (see ch. 3.2), and turn it on again.
- Press and hold both speed buttons ('fast' and 'slow') for at least 5 seconds.
- On the 2613 and 2614 panels, the indicators in the 'searchlight select' buttons will start flashing in sequence. On the 2612 panels, the indicators in the speed buttons will flash in sequence. Release the speed buttons.
- The sequential flashing will last for a couple of seconds, as long as the scanning of the bus is performed. When the flashing is finished, the system is ready for use.
- Repeat the procedure if necessary.

5 SPECIAL PROCEDURES

5.4 RESET OF SEARCHLIGHTS

1. Remove power (230VAC) to the searchlight (motor unit), wait for approx. 10 sec, and reconnect the power. (It is not necessary to disconnect the xenon power supply). If several searchlights need to be reset, repeat this for each searchlight before commencing to step 2.
2. Do a re-scan from the master panel. Alternatively, remove and re-apply power (24VDC) to the panels, either all or at least the master panel. The searchlight will now move to the right and upwards to find the end positions, and back to center. If necessary, watch the searchlight at this stage to verify the movement.

5.5 RECALIBRATE END LIMITS ON SEARCHLIGHTS

1. Open the searchlight junction box and set DIP-switch no. 1 to ON.
2. Remove power (230VAC) to the searchlight (motor unit), wait for approx. 10 sec, and reconnect the power. (It is not necessary to disconnect the xenon power supply). If several searchlights need to be reset, repeat this for each searchlight before commencing to step 3.
3. Do a re-scan from the master panel. Alternatively, remove and re-apply power (24VDC) to the panels, either all or at least the master panel. The searchlight will now do a complete movement up – right – left – center/down to find the end limit positions, and back to center. If necessary, watch the searchlight at this stage to verify the movement.
4. Set the DIP-switch no. 1 back to OFF and close the junction box.

5.6 CHANGING ADDRESS ON A SEARCHLIGHT

PREPARATION:

1. Identify the master panel. Unmount the master panel, so as to get access to the rotary switches on the rear. **IMPORTANT:** Make a note of the settings of the switches
2. Disconnect the power supply to all the searchlights. (Leave the power supply to the panels connected).

PROCEDURE:

3. Connect the power supply to the searchlight whose address shall be changed.
4. Turn off the master panel using the power button. Release the button. The backlight will turn off.
5. Set the rotary switch labeled "N/A" on the rear, set it to one lower than the new address of the searchlight (address minus 1, e.g. set to '1' if the searchlight is to be set to address '2'; i.e. respond to the first press of button '2/6').
6. Press and hold the power button for at least 5 seconds. While holding the power button, push the button marked "3/7" (a short normal push and release). This button can alternatively be pushed several times, until the panel backlight is lit. When the backlight is lit, release the power button. The panel will now send a special message to the searchlight.
7. Check the indicators in the searchlight select buttons ("1/5", "2/6", "3/7" and "4/8"). After approx. 5 – 10 sec. one of them will flash fast (2 times pr. sec) to show the new address of the searchlight.

8. Push power button once to turn on the panel. Check if the searchlight can be controlled on the new address. The procedure can be repeated if necessary.
9. If more searchlights are to be changed, disconnect the power to the current searchlight, and repeat the procedure from step 3.

FINALIZING:

10. **IMPORTANT:** Turn the rotary switch on the rear of the master panel back to the initial (noted) setting.
11. Mount the master panel back in place, connect the power supply to all the searchlights.
12. Do a re-scan of the bus, either by disconnecting and reconnecting the power supply to the master panel, or by following the re-scan procedure described further up in this document. Repeat if necessary.

6 FAULT FINDING

6.1 GENERAL

1. Check which searchlights and from which panels the problem exists on. Can the fault be isolated to a particular searchlight or panel?
2. If it is a system with a radio control module (RCM), check if the same problems exists with the ordinary (wired) panels.
3. When changing a setting/address on a unit, remove and reapply power to let the change become operative.

6.2 PROBLEMS WITH MOVEMENT

1. No movement: Check if light is able to turn on/off: do a re-scan on the master panel (see ch. 5.2 or 5.3).
2. Limited or shifted range of movement: possible problems with end limit switches. Try resetting the searchlight (see ch. 5.4).
3. The searchlight moves with low speed only (And incorrect position indication on panel): Possible problems with position sensors. Try resetting the searchlight (ch. 5.4) or a recalibration of end limits (ch. 5.5).
4. Spurious movement when joystick or panel is not operated: Possible electrical noise or interference on the communication network. Check if this happens under special operation conditions of the ship or other equipment. Alternatively, try resetting the searchlight (ch. 5.4)
5. Not able to select a searchlight from any of the panels. Possible failure of power supply or power dip (230VAC) to the searchlight. Do a re-scan on the master panel (see ch. 5.2 or 5.3).

6.3 PROBLEMS TURNING ON OR OFF THE LAMP

1. Check if movement functions normally. If yes, then the communication with the searchlight is OK and the fault may be in the lamp circuits: Check the lamp itself, electrical wiring and relays. If no, first try to reestablish the communication with the searchlight: Do a re-scan on the master panel (see ch. 5.2 or 5.3).
2. Check if green indicator in "light" button functions normally (toggles on/off when pushing the button). If yes, then the communication with the searchlight is OK and the fault may be in the lamp circuits: Check the lamp itself, electrical wiring and relays. If no, the communication network may be faulty or being influenced by interference, or the searchlight may have a power loss (230VAC). Try to reestablish the communication with the searchlight: Do a re-scan on the master panel (see ch. 5.2 or 5.3).
3. Check relay in the lamp power supply circuit: Contactor in junction box, relay on motor drive electronics.

6.4 PROBLEMS WITH PANELS

1. A master panel is required to get the system to function. If the panel set to master is faulty, the system will not function. Change address on one of the other (slave) panels to '0', remove and reapply power (to the panel), and the panel will function as master. See also ch. 5.2 and 5.3 for re-scan from the master panel.
2. If a button or a joystick is faulty, do the indicator test described in ch. 2.2.

6.5 PROBLEMS AT INSTALLATION

1. Check correct wiring (A is always connected to A, likewise for B and Ref. No grounding of Ref or connected to protective earth). Tip: if one unit in the middle of the comm. network bus does not respond, it may be that A and B are swapped both for the incoming and the outgoing cable.
2. Jerky movement (and/or light goes uncontrolled on/off) can be caused by electrical noise on the network. Check correct wiring, especially mix-up of Ref and A or B.
3. Two or several searchlights move simultaneously when only one is selected from the panel: Check the addresses of the searchlights (same address on two units).
4. Not possible to select any searchlight, or strange behaviour of the indicators on one or more panels. Check the addresses on the panels, two or more set at the same address.
5. Master panel: There shall be one and only one panel set to master (ADR = 0) in a system. If no panel is set as master, the system will appear "dead", if more than one, the panels will have an unpredictable behaviour.
6. If several faults are present on a system, try to isolate one panel and one searchlight and get this to work, then add more units step by step.
7. To decide whether cabling or searchlight is erroneous, power a panel (set to master) with a 9V battery and connect the communication network directly to a searchlight.

7 CONNECTIONS, SETTINGS AND INDICATORS

7.1 PANELS

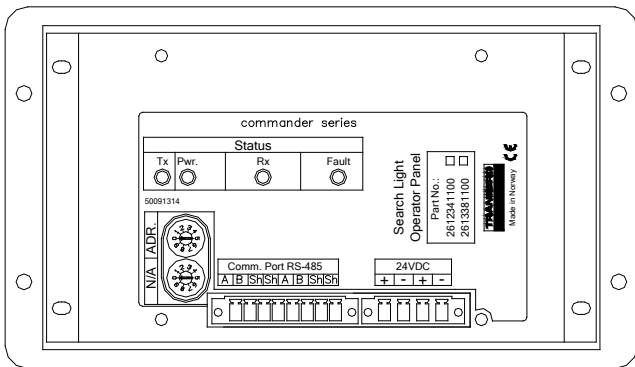
There are 3 different panel models:

1. TEF 2612 Single (this panel can only control 1 searchlight, searchlight no. 1)
2. TEF 2613 Multi (the standard panel for control of up to 8 searchlights)
3. TEF 2614 SAR (Search And Rescue, can control 4 searchlights with 2 light sources each)

All models are identical regarding outer dimensions and connections. The 2613 and 2614 panels have 13 keys, while the 2612 panel has 9 keys (It does not have the upper 4 searchlight select keys).

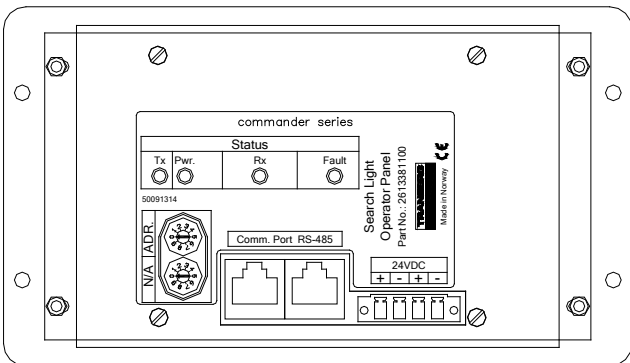
There are 2 versions of each of these panel models:

1. Old version with phoenix type screw terminals as bus connector
2. New version with RJ-45 connectors as bus connector



Old version (Delivered before April 2009)

600A104817



New version

600A102101

CONNECTIONS

Versions with phoenix screw terminals:

Connect 'A/B' to one pair and 'Sh1/2' to one pair. Alternatively: 'A/B' to one pair, screen to Sh1 or Sh2.

| Signal | Alt. 1 | Alt. 2 |
|----------------|--------|--------|
| A | Pair 1 | Pair 1 |
| B | Pair 1 | Pair 1 |
| Sh (Reference) | Pair 2 | Screen |
| Sh (Reference) | Pair 2 | Screen |

Version with RJ-45 connectors

| Pin | Color (TIA 568-A) | Color (TIA 568-B) | Signal |
|--------|-------------------|-------------------|-----------|
| 1 | White / Green | White / Orange | N/C |
| 2 | Green | Orange | N/C |
| 3 | White / Orange | White / Green | A |
| 4 | Blue | Blue | Reference |
| 5 | White / Blue | White / Blue | Reference |
| 6 | Orange | Green | B |
| 7 | White / Brown | White / Brown | N/C |
| 8 | Brown | Brown | N/C |
| Shield | - | - | Shield |

SETTINGS

For all panels with phoenix screw terminals and panels with RJ-45 connectors delivered after April 2009:

| Rotary Switch | | Settings | | |
|---------------|-------|----------|--------|------------|
| N/A | ADR | Address | Mode | Panel Type |
| 0 | 0 | 0 | Master | TEF 2613 |
| 0 | 1 - 7 | 1 - 7 | Slave | |
| 1 | 0 - 7 | 8 - 15 | | TEF 2612 |
| 2 | 0 | 0 | Master | |
| 2 | 1 - 7 | 1 - 7 | Slave | TEF 2614 |
| 3 | 0 - 7 | 8 - 15 | | |
| 4 | 0 | 0 | Master | TEF 2614 |
| 4 | 1 - 7 | 1 - 7 | Slave | |
| 5 | 0 - 7 | 8 - 15 | | |

For panels with RJ-45 connectors delivered before April 2009:

| Rotary Switch | | Settings | | |
|---------------|-------|----------|--------|------------|
| N/A | ADR | Address | Mode | Panel Type |
| 0 | 0 | 0 | Master | TEF 2613 |
| 0 | 1 - 9 | 1 - 9 | Slave | |
| 2 | 0 | 0 | Master | TEF 2612 |
| 2 | 1 - 9 | 1 - 9 | Slave | |
| 4 | 0 | 0 | Master | TEF 2614 |
| 4 | 1 - 9 | 1 - 9 | Slave | |

Note: The addresses 10 – 15 are not available on these panels.

7 CONNECTIONS, SETTINGS AND INDICATORS

INDICATORS

| Priority | Power btn LED | Fault LED | Description |
|----------|---------------|-----------|---|
| 1 | Fast flash | Fast | Power on or off. Network error: No messages received. |
| 2 | Fast flash | Slow | Power on or off. Network error: The module receives messages on the bus, but none to its own address. |
| - | Steady on | Off | Power off/standby, Master Panel |
| - | Slow flash | Off | Power off/standby, Slave Panel (Receives messages from master) |
| - | Off | Off | Power on, Master or Slave Panel |

If a master panel do not get any answers/messages from any other slave or node, then the master will signal 'No messages received'.

Slow flash: 1 sec. on, 1 sec off

Fast flash: 2 blink per second.

The yellow Rx and Tx LEDs shows the activity on the bus, and will flicker at normal bus activity.

The green Power LED will light steady when 24VDC is applied / supplied.

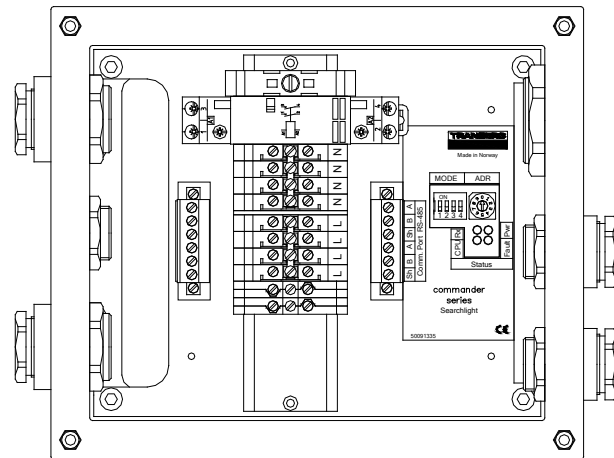
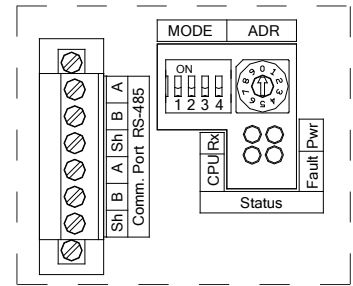
7.2 SEARCHLIGHT MOTOR UNIT

There are 2 different versions of the motor unit:

- Version 1 with internal electronics: Connections are on numbered screw terminals (See connection diagrams). No visible indicators or settings. Address setting is done via bus programming. See chapter 5.6 "Changing the address of a searchlight". (Indicators on the internal electronics board behave similarly to the indicators on the new version 2 electronics: Pwr -> Pwr, Rx -> Rx, I2 -> CPU).

- Version 2 (new) with electronics in the junction box

NOTE: The following chapters apply to version 2 (new) only.



600A104858

CONNECTIONS

| Pin | Signal | Comment |
|-----|--------|-----------|
| 6 | A | |
| 5 | B | |
| 4 | Sh | Reference |
| 3 | A | |
| 2 | B | |
| 1 | Sh | Reference |

| Mode | |
|------------|--|
| DIP switch | Description |
| 1 | If set to one: Do a full positional re-scan at next power-up/bus query (deletes and replaces the previous memorized endpositions). |
| 2 - 4 | Not in use |

| Rotary switch | |
|---------------|--|
| Address | Description |
| 0 | Use the programmed address. To change see chapter "Changing address on a searchlight". |
| 1 - 9 | Set address equal to number. 1 = 1 (A) on panel, 2 = 2 (B) on panel, etc. |

For safety reasons the motors in the searchlight will stop after 1.5 seconds without communication on the bus.

7 CONNECTIONS, SETTINGS AND INDICATORS

INDICATORS:

Rx (Yellow): shows the activity on the bus, and will flicker at normal bus activity

Pwr (Green): light steady when the internal 24VDC is OK.

CPU (Green):

| Priority | CPU LED | Description |
|----------|------------|---|
| 1 | Steady on | Is on for 5 sec. when power is applied |
| 2 | Fast flash | All OK and receiving messages from the bus master |
| 3 | Slow flash | OK, but not receiving messages to itself from the bus |
| - | Off | |

Fault (Red)

| Priority | Fault LED | Description |
|----------|------------|---|
| 1 | Steady on | <ol style="list-style-type: none"> Output stage of drive electronics has an overtemperature condition During positional scan at power-up. If one of the conditions for fast or slow blinking occur at this phase, it will start blinking correspondingly. |
| 2 | Fast flash | Overcurrent/overload at one or both motors. Will continue to blink fast until both motors are driven at the same time. |
| 3 | Slow flash | Not receiving any messages to itself. Delayed 5 sec. after the CPU LED. |
| - | Off | Normal condition |

7.3 CONTROL MODULES

SIM and RCM module:

| Priority | Fault LED | Description |
|----------|------------|--|
| 1 | Steady on | Functional error: Can be several causes. |
| 2 | Fast flash | Network error: No messages received. |
| 3 | Slow flash | Network error: The module receives messages on the bus, but none to its own address. |
| - | Off | Module and outputs OK. |

8 TECHNICAL DATA

SEARCHLIGHT

| Model: | 2650/ 2655 Halogen 250W (Ø355) | 2650/ 2655 Halogen 1000W (Ø355) | 2650 Halogen 1000W (Ø510) | 2650 Halogen 2000W (Ø510) | 2650 HRI 1000W (Ø410) |
|---|--------------------------------------|---------------------------------------|------------------------------|------------------------------|--------------------------|
| Dimensions: | | | | | |
| Height: | 890 mm | 890 mm | 1084 mm | 1084 mm | 959 mm |
| Width: | 450 mm | 450 mm | 450 mm | 450 mm | 497 mm |
| Height w/pedestal: | 1490 mm | 1490 mm | 1684 mm | 1684 mm | 1559 mm |
| Weight searchlight: | 56 kg | 56 kg | 56 kg | 56 kg | 56 kg |
| Electrical: | | | | | |
| Line input voltage (*): | 230 VAC 202-254 VAC | | | | |
| Line input current (max): | 3A | | | | |
| Standard cable gland dia.: | 2 pcs. E204/2A/M20 6.4 – 11.8mm Ø | | | | |
| Comm. interface: | RS-485, Galvanically isolated | | | | |
| Required cable impedance: | typ. 100 – 250Ω | | | | |
| Optical system: | | | | | |
| Lamp power: | 250W | 1000W | 1000W | 2000W | 1000W |
| Working voltage (other voltage on request): | 24V | 230V | 230V | 230V | 230V |
| Lamp lifetime (approx.): | 300h | 900h | 900h | 480h | 12000h |
| Luminous flux: | 12600 lm | 21000 lm | 21000 lm | 50000 lm | 90000 lm |
| Divergence: | 6° | 11° | 7,9° | 10,8° | 2° - 7° |
| Range at 1 lux (theoretical calculation): | 1320 m | 1540 m | 2043 m | 2366 m | 2000 m |
| Reflector diameter: | Ø304 mm (12") | Ø304 mm (12") | Ø457 mm (18") | Ø457 mm (18") | Ø355 (14") |
| Focal point distance: | 69 mm (2 3/4") | 69 mm (2 3/4") | 127 mm (5") | 127 mm (5") | 69 mm (2 3/4") |
| Tranberg Lamp Part No.: | 9400 037 | 9400 072 | 9400 072 | 9400 073 | 9400 100 |
| Motion (motor unit): | | | | | |
| Vertical range (positive = up): | 50° (+20° - -30°) | | | | |
| Vertical speed: | 0.7° - 11° per sec. | | | | |
| Horizontal range (positive = right): | 370° (±185°) | | | | |
| Horizontal speed: | 2° - 40° per sec | | | | |
| Materials: | | | | | |
| Lamphouse and motor unit: | Stainless steel | | | | |
| Base: | Stainless steel | | | | |
| Lens: | Toughened soda-lime glass | | | | |
| Mirror: | Silver plated glass reflector | | | | |
| Fork and lifting rod: | Stainless steel | | | | |
| Screw joint material: | Stainless steel | | | | |
| Surface treatment: | Powder coated RAL 9010 | | | | |
| Ingress protection (DIN40050): | IP56 | | | | |
| Operating temperature: | - 50°C - + 50°C | | | | |

(*) Other voltages available on request

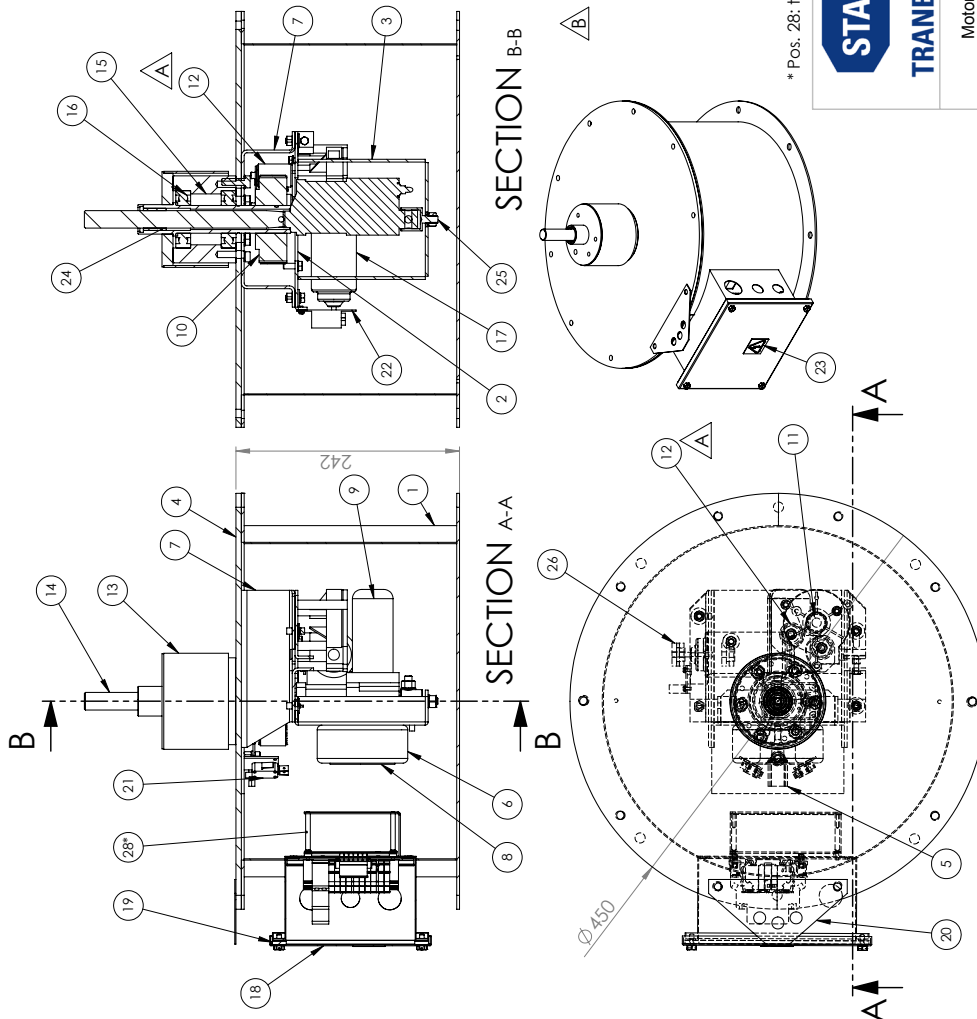
8 TECHNICAL DATA

PANEL:

| | |
|--------------------------------|------------------|
| Model: | 2612, 2613, 2614 |
| Length: | 163 mm |
| Width: | 96 mm |
| Height: | 62 mm |
| Height w/joystick: | 105 mm |
| Weight: | 360 g |
| Mounting: | Flush |
| Input voltage: | 12 – 28 VDC |
| Input current (at 24V): | max 120mA |
| Ingress protection (DIN40050): | IP20 |
| Operating temperature: | 0°C - + 40°C |
| Storage temperature: | - 20°C - + 60°C |

600A113721 - LARGE MOTORHOUSE ASSEMBLY

| ITEM NO. | Description | PartNo | SW-File Name(File Name) | QTY. |
|----------|---|-----------------|----------------------------|------|
| 1 | Welded motorhouse | 4687 | 600A104186 | 1 |
| 2 | MOUNTING BRACKET FOR HORIZONTAL MOTOR | 4918 | 600A104778 | 1 |
| 3 | Bracket for vertical motor | 4919 | 600A104777 | 1 |
| 4 | TOP PLATE FOR MOTOR SUPPORT FRAME | 50523249 | 600A107465 | 1 |
| 5 | STOP ARM | 4361 | 600A101061 | 1 |
| 6 | TRANSFORMER | 50860085 | - | 1 |
| 7 | Mounting bracket for motor | 5065 | 600A105625 | 1 |
| 8 | MOUNTING BRACKET FOR TRANSFORMER | - | - | 1 |
| 9 | VERTICAL MOTOR | 56000002 | - | 1 |
| 10 | GEAR WHEEL 60T. (HORIZONTAL) | 4299 | 600A101027 | 1 |
| 11 | TOOTH BELT WHEEL | 4300 | 600A12131 | 1 |
| 12 | Tension bracket included Toothbelt PU 410-15-25mm w/ Kevlarcord | 6664 | 600A114721 | 1 |
| 13 | PIVOT WITH CLAMPING PLATE | 4979 | 600A105943 | 1 |
| 14 | MANOUVRE BOLT | 4289 | 600A108038 | 1 |
| 15 | BEARING HOUSE | 4290 | 600A12124 | 1 |
| 16 | Ball bearing | - | radial ball bearing_48_din | 2 |
| 17 | MOTOR TYP DOGA 11L. HORIZONTAL | 56000001 | - | 1 |
| 18 | LID FOR JB | 3127 | - | 1 |
| 19 | GASKET FOR LID JB | 50330077 | - | 1 |
| 20 | BRACKET FOR ABUTMENT | 4307 | 600A101113 | 1 |
| 21 | END SWITCH | 50214041 | - | 2 |
| 22 | Sensorcard | 4681 | - | 1 |
| 23 | WARNING LABEL | 60002052 | - | 1 |
| 24 | LOWER SLEEVE | 4306 | 600A12128 | 1 |
| 25 | Mounting device for vertical motor | 4385 & 59004385 | 600A107122 | 1 |
| 26 | SENSOR MAGNET | 56000017 | - | 1 |
| 28* | CONTROL MODULE XENON | 4978 | 600A106148 | 1 |
| 28* | CONTROL MODULE XENON 1600/2000W | 5159 | 600A106203 | 1 |



* Pos. 28: type of control module depends on if it is a motorhouse for xenon or halogen.



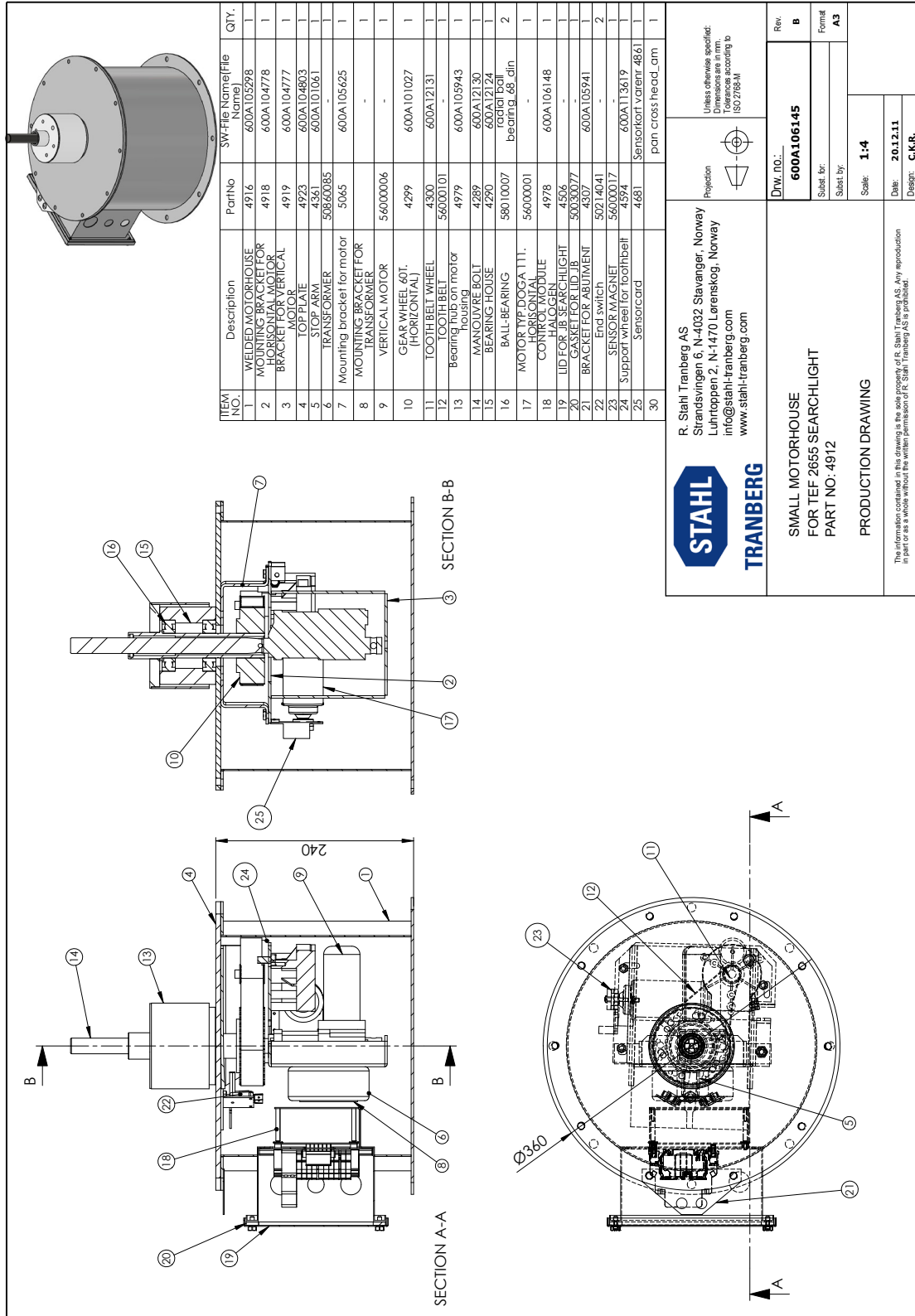
R. Stahl Tranberg AS
Strandsvingen 6, N-4032 Stavanger, Norway
Luhtoppen 2, N-1470 Leirskog, Norway
info@stahl-tranberg.com
www.stahl-tranberg.com

Projection
Unless otherwise specified:
Tolerances according to
ISO 2788-M

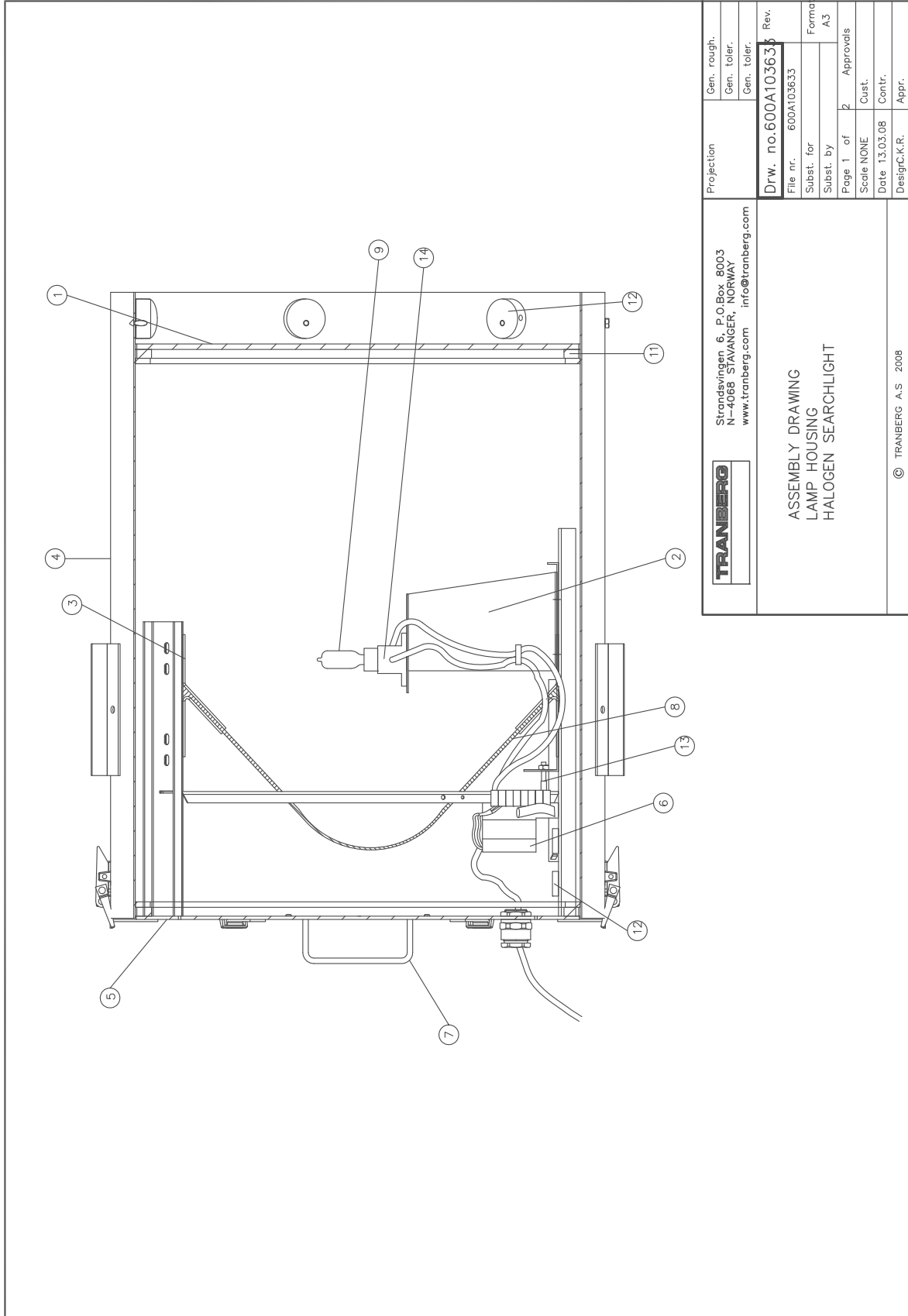
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| Motorhouse for TEF 2650 Searchlight Part No: 5555 (Halogen) Part No: 5554 (Xenon) Production Drawing | Drw. no.: 600A113721 | Rev. B |
| | Subst. for: | Format A3 |
| | Subst. by: | Scale: 1:4.5 |
| | Date: 12.03.2018 | Design: CKR |


| REV. | DESCRIPTION | DATE | SIGN. |
|------|---|------------|-------|
| A | Added part no. 6664 (pos 12), tension bracket | 21.02.2019 | CKR |
| B | Corrected partno. for item 22 | 21.10.2020 | AKA |

600A106145 - SMALL MOTORHOUSE ASSEMBLY



600A103633 - LAMP HOUSING TEF 2650 HALOGEN

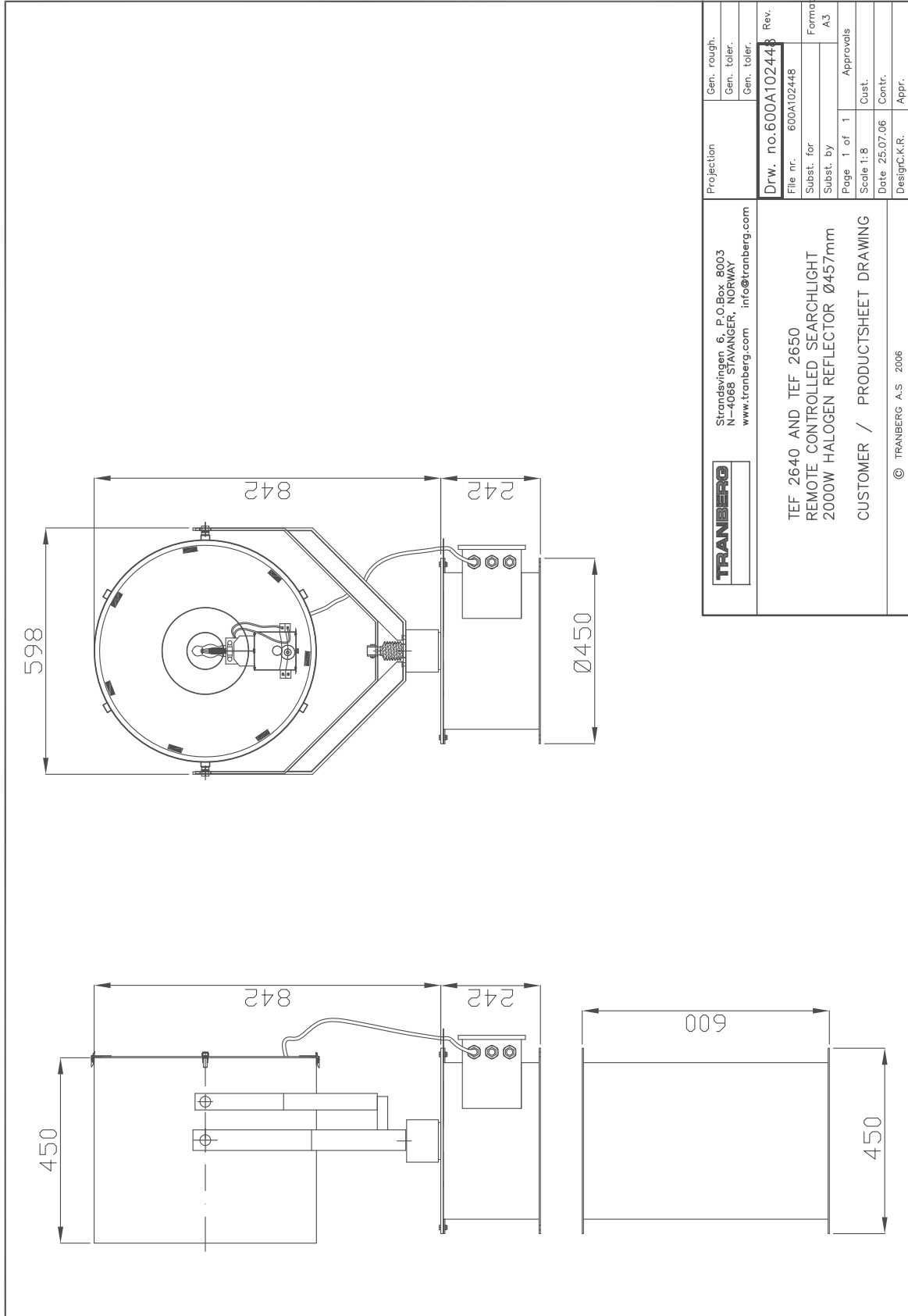


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| | Drw. no. 600A103633 | | Gen. toler. |
| ASSEMBLY DRAWING LAMP HOUSING HALOGEN SEARCHLIGHT | | File nr. 600A103633 Subst. for Subst. by Page 1 of 2 Approvals Scale NONE Date 13.03.08 Design:K.R. | Rev. Format A3 Cust. Contr. Appr. |
| © TRANBERG A.S. 2008 | | | |

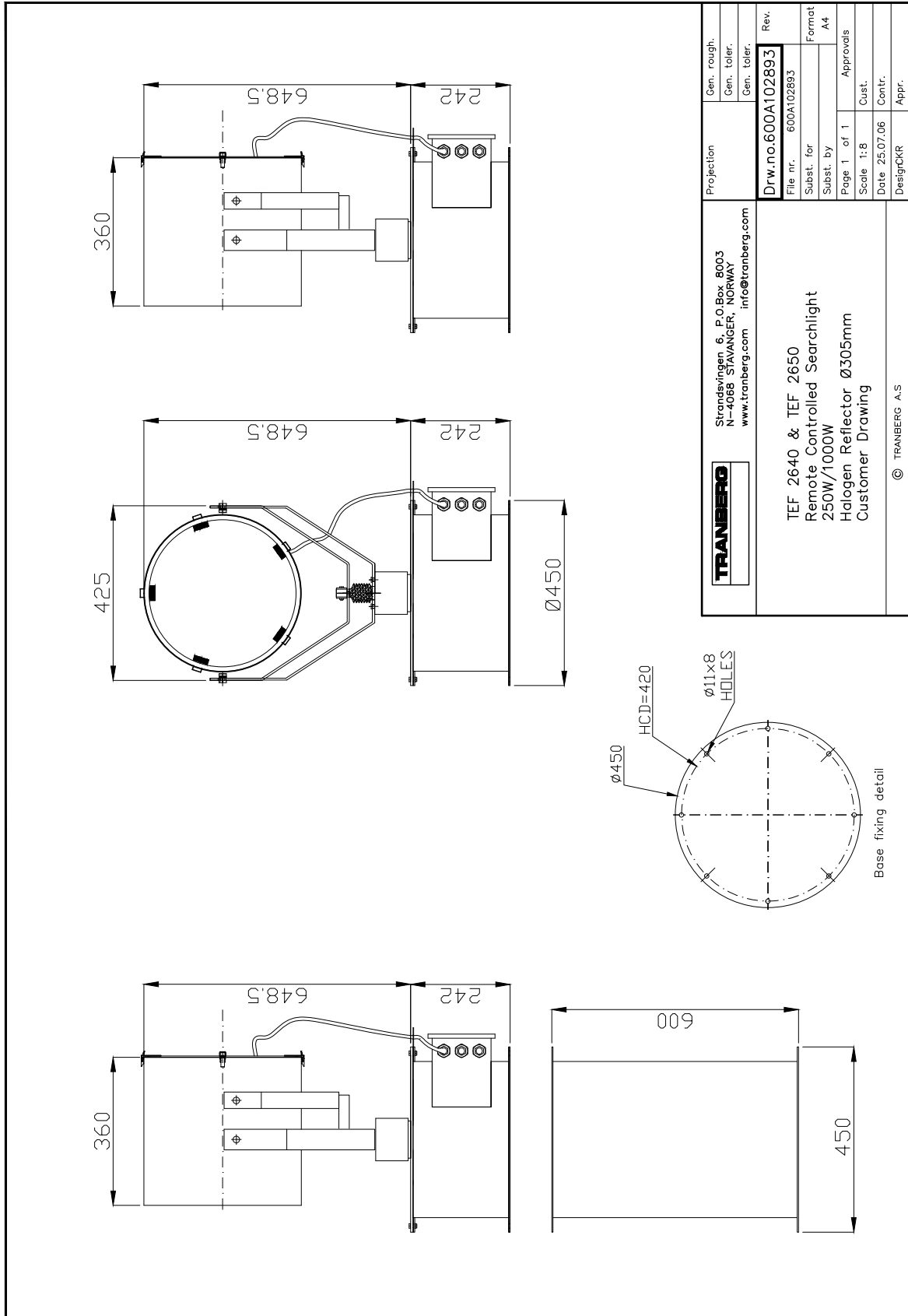
600A103633 - PART LIST FOR LAMP HOUSING

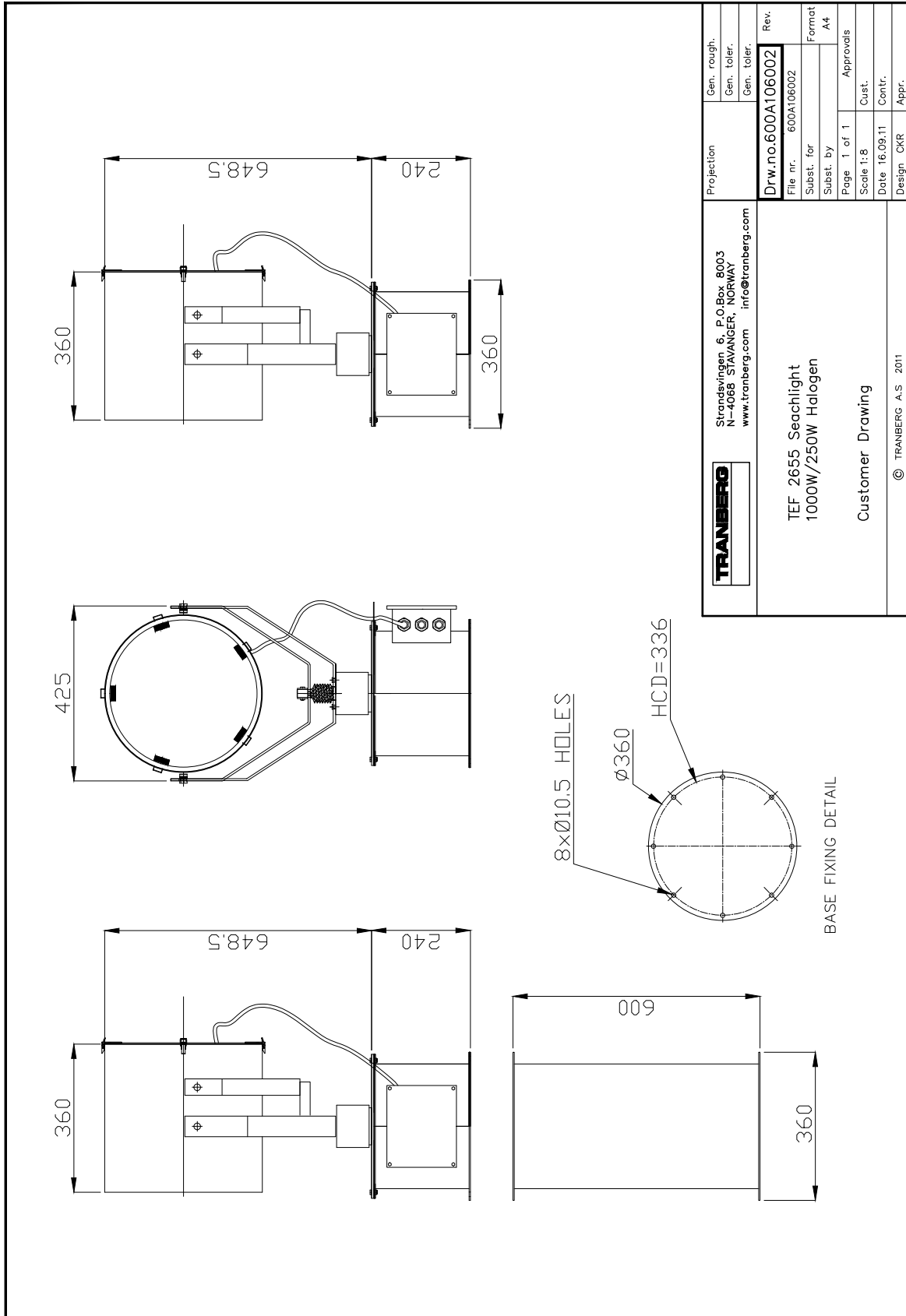
| POS | NUMB. | ART. NO. | DRAWING NO. | DESCRIPTION | DIM., MATERIAL |
|---|------------------------------------|---------------|---|-------------------------------------|--|
| 1 | 1 | 50450041 | | FRONTGLASS Ø533 mm | Ø 534,5x5 mm., GLASS |
| | | 50450042 | | FRONTGLASS Ø377 mm | Ø 378,5x5 mm., GLASS |
| 2 | 1 | 4452/4565 | 600A102246/730 | FOCUS BRACKET 2000W/1000W | AISI 304 |
| | | 4429/4453 | 600A102243/44 | BRACKET 2000W/1000W | AISI 304 |
| 3 | 2 | 4503/4504 | 600A102370/69 | REFLECTOR CLIP FRONT/ REAR 2000W | 304L/316L |
| | | 4570 | 600A106013 | REFLECTOR CLIP 1000W | 316L |
| 4 | 1 | 4410 | 600A102324 | LAMPHOUSE 2000W | Ø 540 MM, AISI 304 |
| | | 4561 | 600A102700 | LAMPHOUSE 1000W | Ø 540 MM, AISI 304 |
| 5 | 1 | 4435 | 600A102268 | BACKLID 2000W | AISI 304L/316L |
| | | 4563 | 600A102716 | BACKLID 1000W | AISI 304L/316L |
| 6 | 1 | 56000123 | | FOCUS MOTOR 230v 60Hz, 40 rpm, 15:1 | |
| 7 | 1 | 98994007 | | Handle Black G/F | |
| 8 | 1 | 50890046 | | REFLECTOR 18" 2000W | 18 x 5" |
| | | 50890043 | | REFLECTOR 12" 1000W | 12 x 3 1/2" |
| 9 | 1 | 9400073 | | LAMP 2000W/230V | |
| | | 9400072 | | LAMP 1000W/230V | |
| 9 | 1 | 9400037 | | LAMP 500W/24V | |
| 10 | 8 / 5 | 4446 | 600A102009 | SEAL FOR FRONTGLASS 2000W 8 PCS | POM |
| | | | 600A102009 | SEAL FOR FRONTGLASS 1000W 5 PCS | POM |
| 11 | 2 | 9899072 | | RUBBER SEAL 2000W | L=1,8 M |
| | | | | RUBBER SEAL 1000W | L=1,2 M |
| 12 | 2 | 50214041 | | ENDSWITCH FOCUS | |
| 13 | 1 | 4509 | 600A110171 | JUNCTION SLEEVE FOR FOCUS BOLT | |
| 14 | 1 | 98996003 | | LAMPHOLDER 2000W GY16 | |
| | | 98996000 | | LAMPHOLDER 1000W GX9,5 | |
| 14 | 1 | 50870013 | | LAMPHOLDER 500W E-40 | |
|  | Updated parts and added dimensions | | | | 02.02.2018 BKF |
| SYMBOL | REVISJON | | | | DATO SIGNATUR |
| PART-LIST | | | | | |
|  | | | Strandsvingen 6, P.O.Box 8003 N-4068 STAVANGER, NORWAY www.tranberg.com info@tranberg.com | | Projection Gen. toler. Gen. toler. |
| PART LIST FOR ASSEMBLY DRAWING LAMP HOUSING HALOGEN SEARCHLIGHT | | | Drw.no. 600A103633 | | Rev. D |
| | | | File nr. 600A103662 | | Format A4 |
| | | | Subst. for Subst. by | | |
| | | | Page 2 of 2 | | Approvals |
| Scale NONE | | Cust. | | | |
| Date 09.04.08 | | Contr. | | | |
| © TRANBERG A.S 2008 | | Design C.K.R. | | Appr. | |

600A102448 - DIMENSIONS - TEF 2640/ 2650 SEARCHLIGHT, 2000W



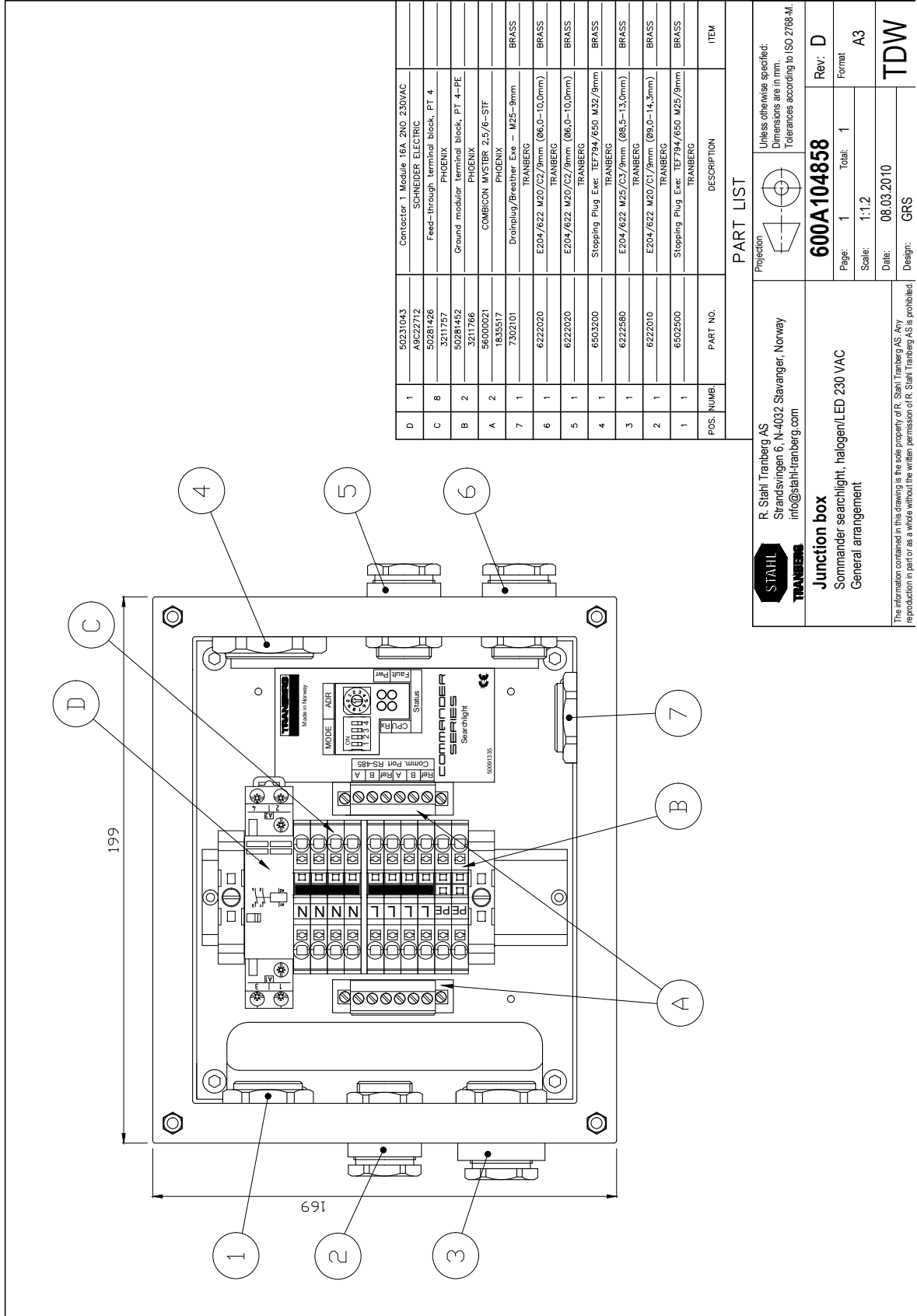
600A102893 - DIMENSIONS - TEF 2640/ 2650 SEARCHLIGHT, 250/1000W





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| | Strandsvingen 6, P.O.Box 8003 N-4068 STAVANGER, NORWAY www.tranberg.com info@tranberg.com | Projection | Gen. rough. |
| | | | Gen. toler. |
| | | Gen. toler. | Rev. |
| | | File nr. 600A106002 | 600A106002 |
| | | Subst. for | Format A4 |
| | | Subst. by | Approvals |
| | | Page 1 of 1 | Cust. |
| | | Scale 1:8 | Date 16.09.11 |
| | | Design CKR | Appr. |
| TEF 2655 Searchlight 1000W/250W Halogen Customer Drawing | | © TRANBERG A.S. 2011 | |

600A104858 - JUNCTION BOX TEF 2650 HALOGEN



| POS. NUMB. | PART NO. | DESCRIPTION | ITEM |
|------------|----------|---|-------|
| D 1 | 50231043 | Contactor 1 Module 16A 2NO 230VAC | |
| C 8 | 48222712 | SCHNEIDER ELECTRIC | |
| | 50281426 | Feed-through terminal block, PT 4 | |
| | 3211757 | PHOENIX | |
| B 2 | 50281452 | Ground modular terminal block, PT 4--PE | |
| | 3211766 | PHOENIX | |
| A 2 | 56000021 | COMBICON M5TER 2,5/6-SIF | |
| | 1835517 | PHOENIX | |
| 7 1 | 7302101 | Drainplug/Breather Exe - M25-9mm | BRASS |
| 6 1 | 6222020 | E204/622 M20/C2/9mm (Ø6,0-10,0mm) | BRASS |
| | | TRANBERG | |
| 5 1 | 6222020 | E204/622 M20/C2/9mm (Ø6,0-10,0mm) | BRASS |
| | | TRANBERG | |
| 4 1 | 6503200 | Stopping Plug Exe: TEF794/650 M32/9mm | BRASS |
| | | TRANBERG | |
| 3 1 | 6222580 | E204/622 M25/C3/9mm (Ø8,5-13,0mm) | BRASS |
| | | TRANBERG | |
| 2 1 | 6222010 | E204/622 M20/C1/9mm (Ø9,0-14,3mm) | BRASS |
| | | TRANBERG | |
| 1 1 | 6502500 | Stopping Plug Exe: TEF794/650 M25/9mm | BRASS |
| | | TRANBERG | |

PART LIST

| | |
|---|--|
| <p>R. Stahll Tranberg AS Strandsvingen 6, N-4032 Stavanger, Norway info@stahl-tranberg.com</p> | <p>Projection</p> <p>Unless otherwise specified: Dimensions are in mm. Tolerances according to ISO 2768-M.</p> |
| | <p>600A104858</p> <p>Page: 1 Total: 1 Scale: 1:1.2 Date: 08.03.2010 Design: GRS</p> |
| <p>Junction box Sommander searchlight, halogen/LED 230 VAC General arrangement</p> | |
| <p>Rev: D Format A3</p> | |
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Technical drawing of the Commander Searchlight Junction Box. The drawing shows the internal layout of the box with various components labeled with callouts 1 through 6. Dimensions are provided: 199mm for the main width and 169mm for the terminal block width. The drawing includes a terminal block with terminals labeled A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UY, UV, UW, UX, UY, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.

| POS. | NUMB. | PART NO. | DESCRIPTION | ITEM |
|------|-------|----------|--------------------------|-------|
| C | 2 | 50281311 | TERMINAL BLOCK UKXN | |
| | | 3005073 | PHOENIX | |
| B | 8 | 50281216 | TERMINAL BLOCK UKXN | |
| | | 3004362 | PHOENIX | |
| A | 2 | 56000021 | COMBICON M5TBR 2,5/6-STF | |
| | | 1835517 | PHOENIX | |
| 6 | 1 | 6142914 | GLAND E204/2A/M20 | BRASS |
| 5 | 1 | 6142914 | GLAND E204/2A/M20 | BRASS |
| 4 | 1 | 6144914 | GLAND E204/4A/M32 | BRASS |
| 3 | 1 | 7947304 | STOPPING PLUG M25 | BRASS |
| 2 | 1 | 7947303 | STOPPING PLUG M20 | BRASS |
| 1 | 1 | | GLAND | BRASS |
| | | | TRANBERG | |
| | | | DESCRIPTION | |
| | | | PART NO. | |

PART LIST

Strandsvingen 6, P.O.Box 8003
N-4068 STAVANGER, NORWAY
www.tranberg.com info@tranberg.com

Gen. rough. Gen. toler. Gen. toler.

Drw. no. 600A104860 Rev.

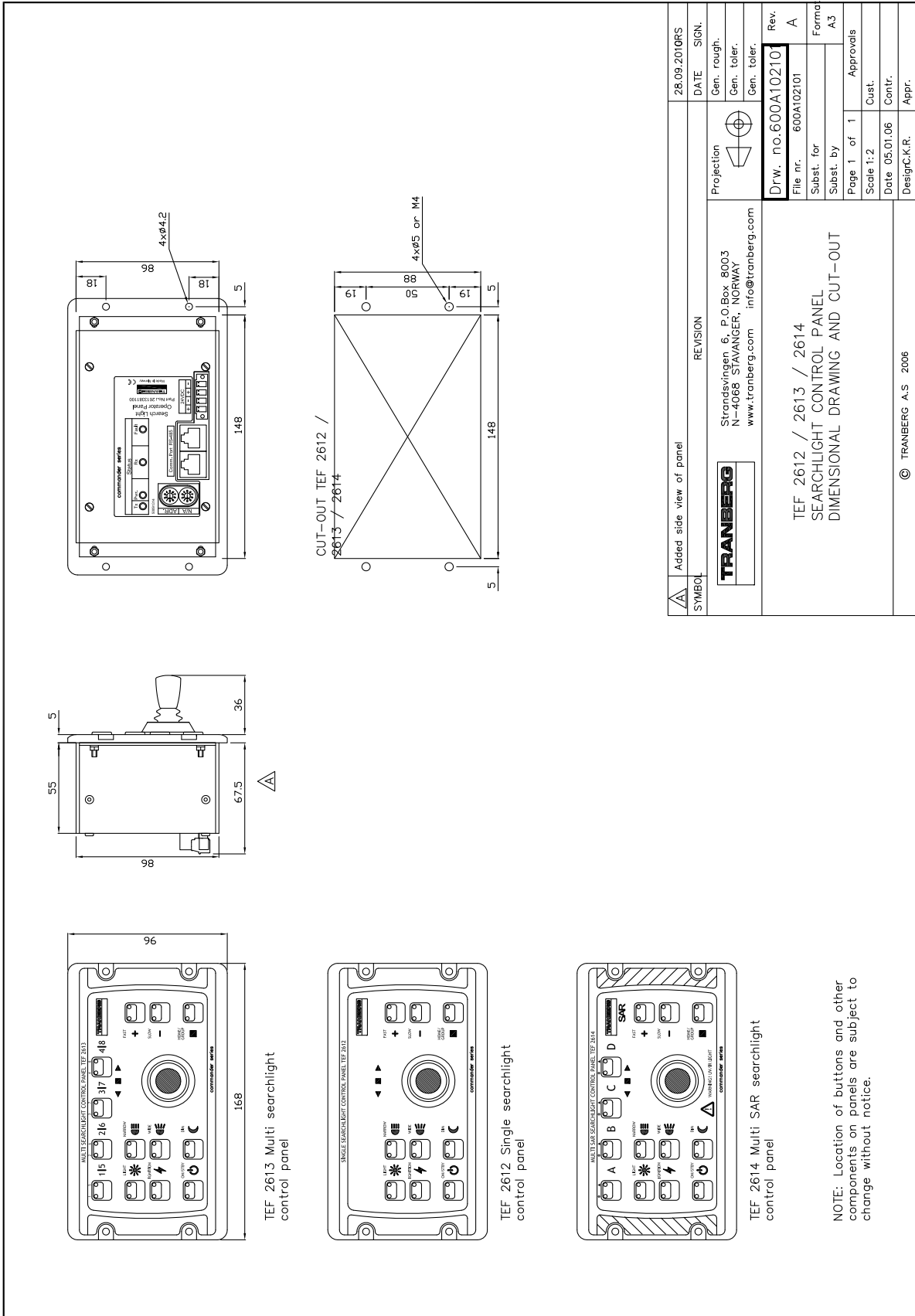
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Page1 of 1 Approvals
Scale NONE Cust.
Date 08.04.11 Contr.
DesignRS Appr.

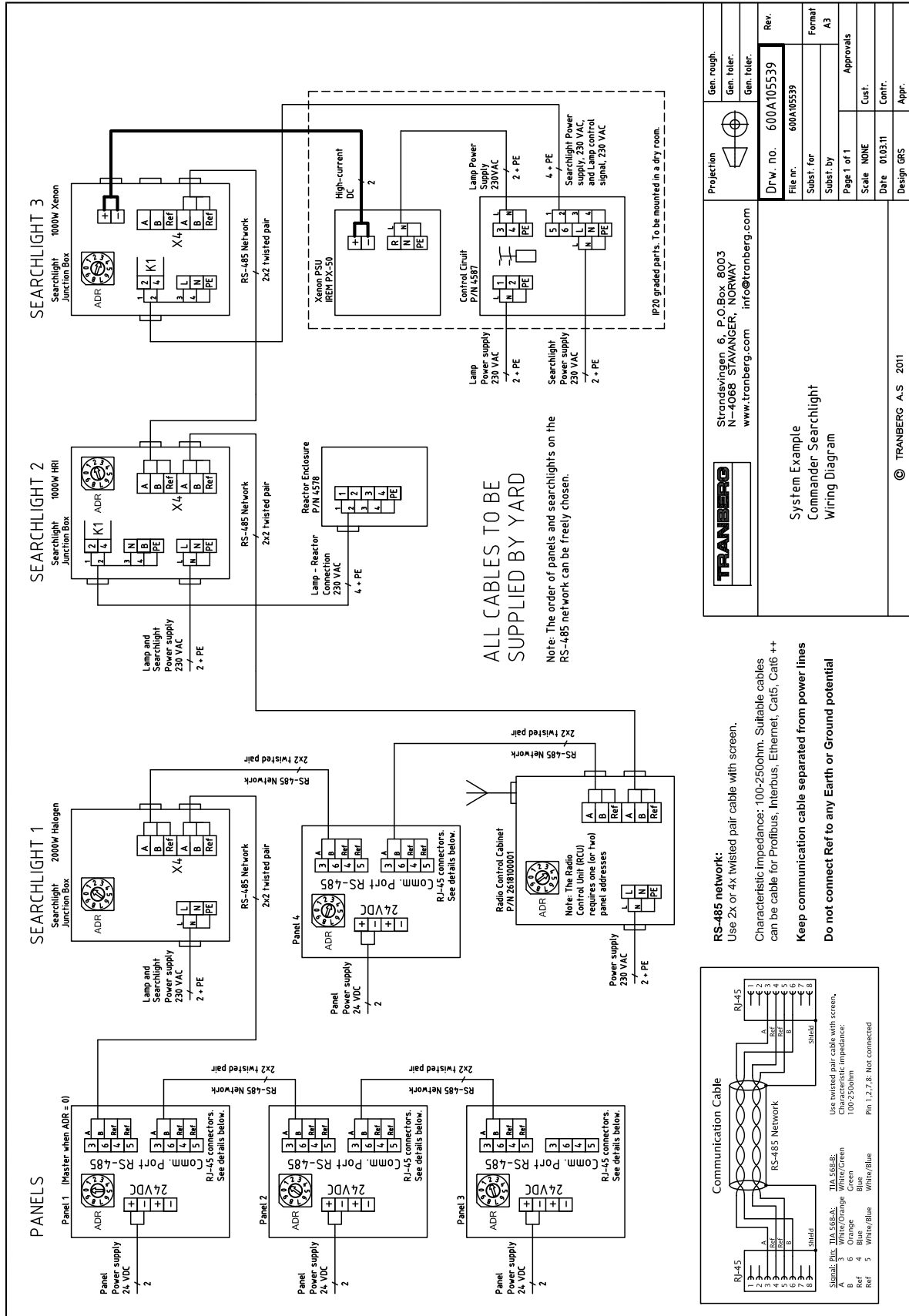
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Junction Box
Commander Searchlight, Halogen 24VDC
General Arrangement

600A102101 - CONTROL PANELS DIMENSIONS AND CUT-OUTS



600A105539 - SYSTEM EXAMPLE, WIRING DIAGRAM



| | | |
|-------------|----------------|---|
| Gen. rough. | Projection | Strandsvingen 6, P.O.Box 8003 N-4068 STAVANGER, NORWAY www.tranberg.com info@tranberg.com |
| Gen. toler. | Gen. toler. | |
| Gen. toler. | Gen. toler. | |
| Rev. | Drw. no. | 600A105539 |
| Format | File nr. | 600A105539 |
| A3 | Subst. for | |
| Approvals | Subst. by | |
| | Page 1 of 1 | |
| | Scale | NONE |
| | Date | 01.03.11 |
| | Confr. | |
| | Design GRS | |
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RS-485 network:
 Use 2x or 4x twisted pair cable with screen.
 Characteristic impedance: 100-250ohm. Suitable cables can be cable for Profibus, Interbus, Ethernet, Cat5, Cat6 ++

Keep communication cable separated from power lines

Do not connect Ref to any Earth or Ground potential

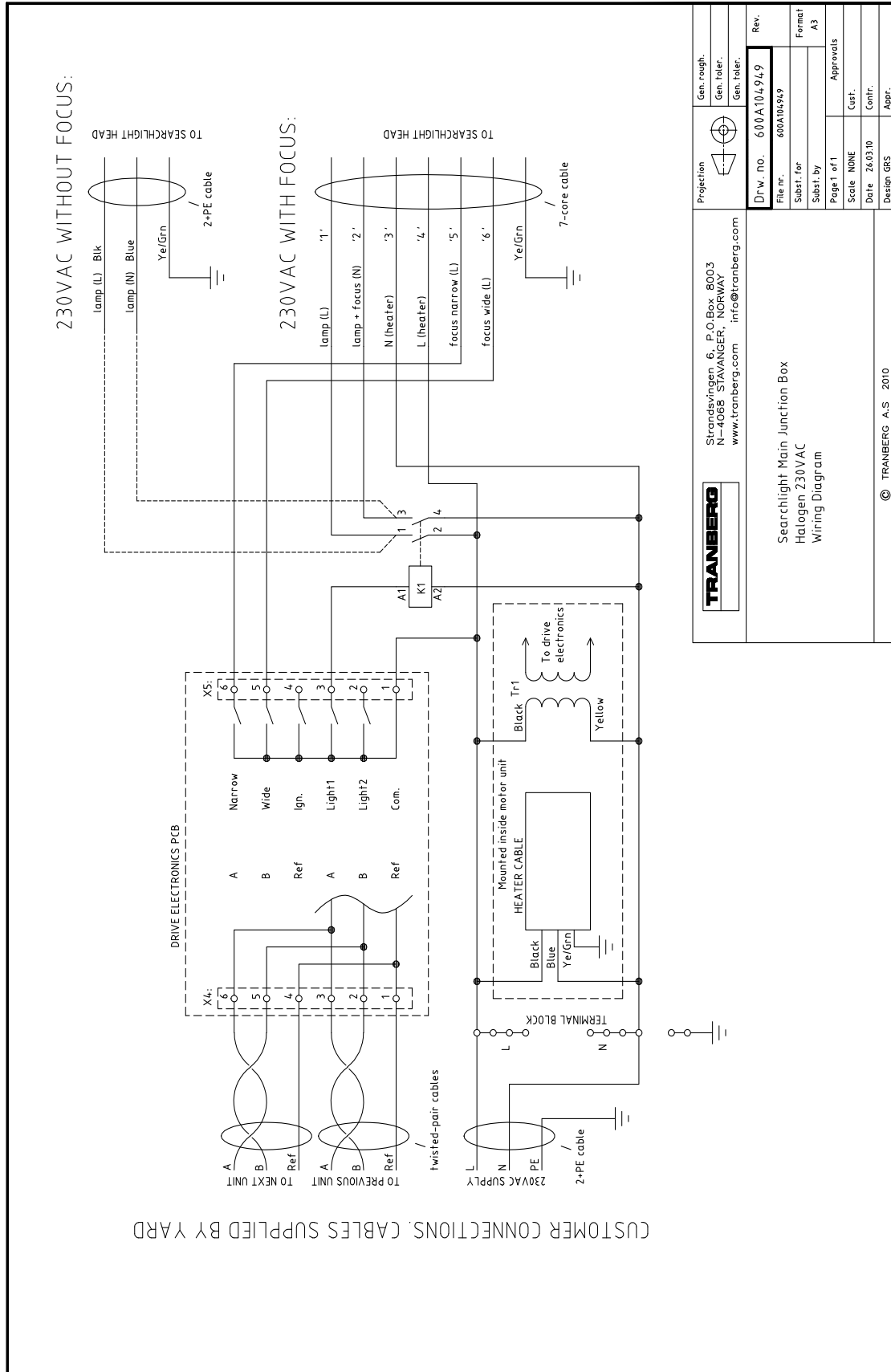
Communication Cable

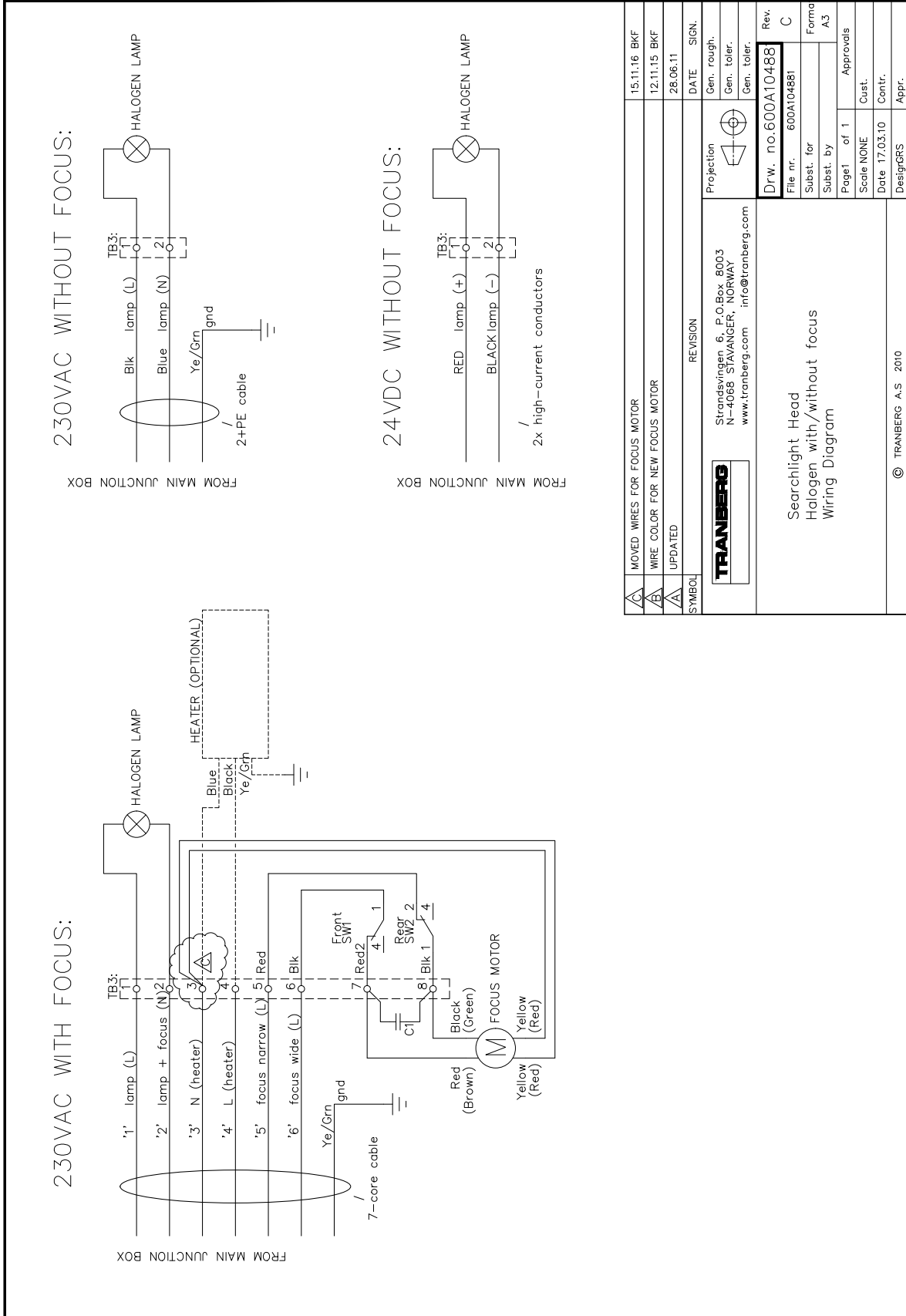
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|--------|---|---|------------|------------|---|---|---|---|
| RJ-45 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| A | 3 | 6 | Ref | Ref | 5 | 4 | 2 | 1 |
| B | 4 | 5 | Ref | Ref | 6 | 3 | 7 | 8 |
| Ref | 5 | 4 | White/Blue | White/Blue | 6 | 3 | 7 | 8 |
| Shield | 8 | 7 | Shield | Shield | 6 | 3 | 7 | 8 |

Shield: Pin: TIA 568A: White/Orange
 TIA 568B: White/Green
 Orange
 Green
 White/Blue
 White/Blue
 Pin 1,2,7,8: Not connected

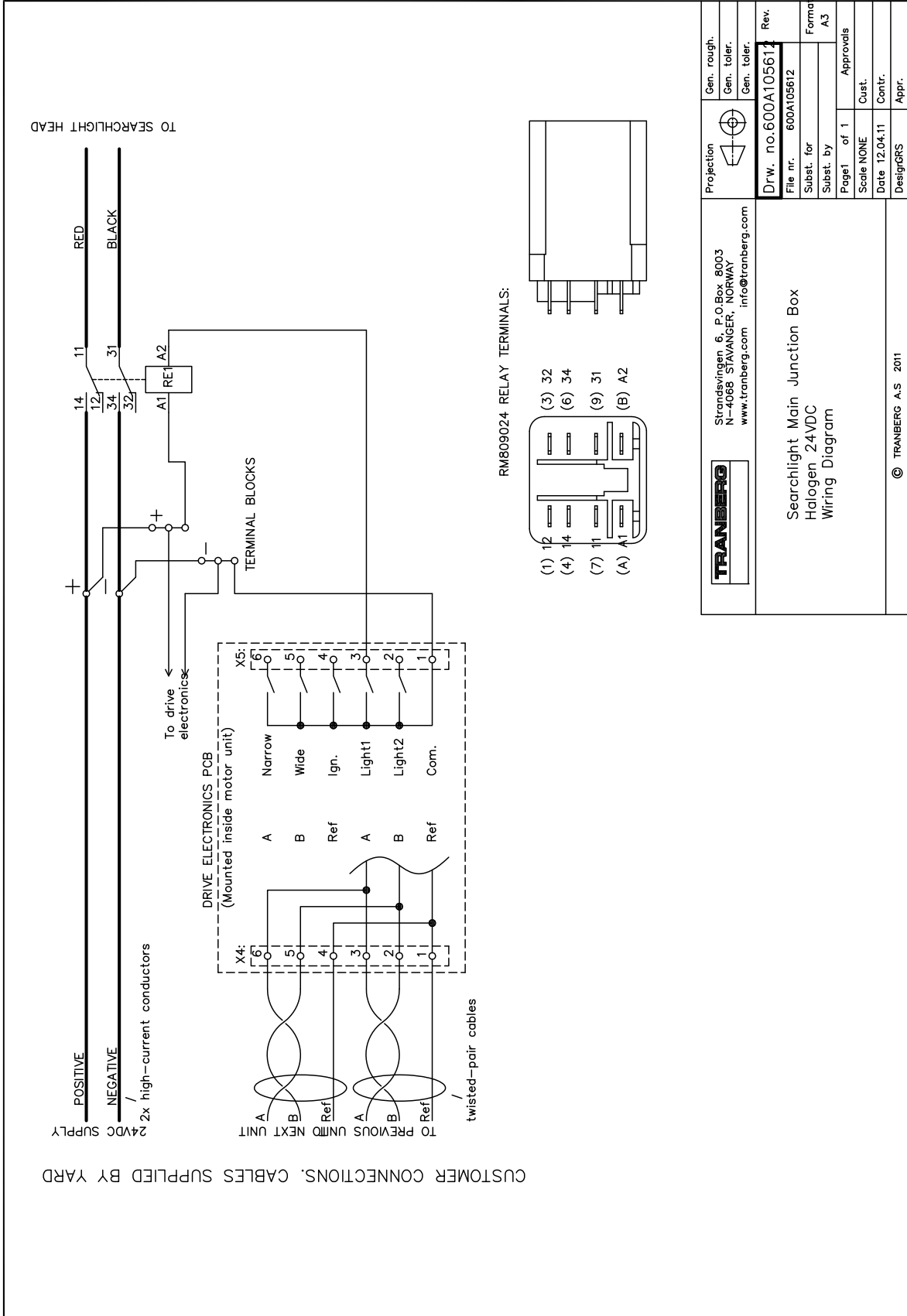
Use twisted pair cable with screen.
 Characteristic impedance: 100-250ohm

600A104949 - SEARCHLIGHT MAIN JUNCTION BOX, WIRING DIAGRAM



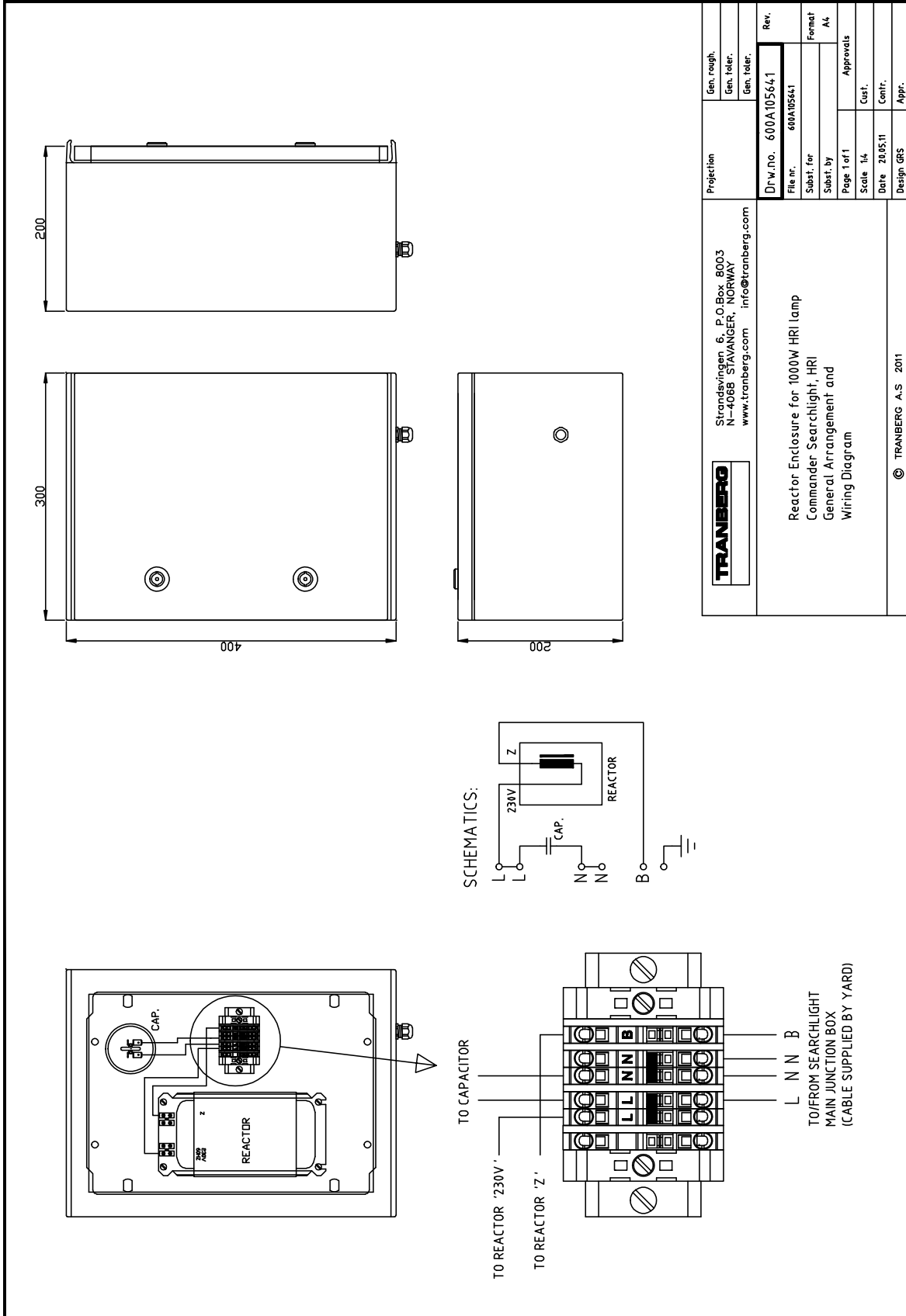


600A105612- SEARCHLIGHT MAIN JUNCTION BOX, WIRING DIAGRAM



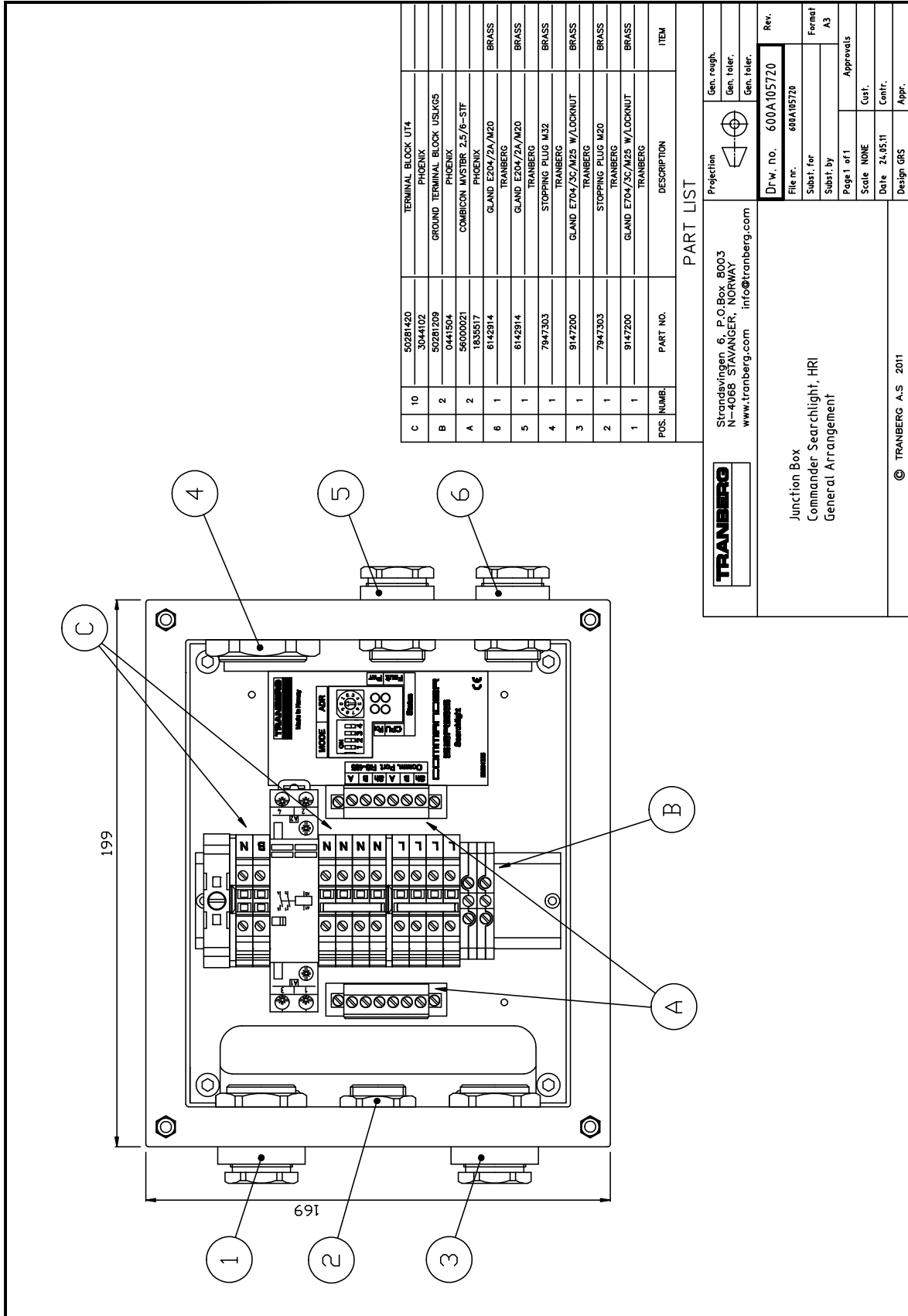
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| | Gen. rough. |
| | Gen. toler. |
| | Gen. toler. |
| | Strandsvingen 6, P.O.Box 8003 N-4068 STAVANGER, NORWAY www.tranberg.com info@tranberg.com |
| Project Drw. no. 600A105612 | Rev. File nr. 600A105612 Subst. for Subst. by Page1 of 1 Scale NONE Date 12.04.11 DesignERS |
| Searchlight Main Junction Box Halogen 24VDC Wiring Diagram | |
| © TRANBERG A.S. 2011 | |
| Approvals Cust. Contr. Appr. | |

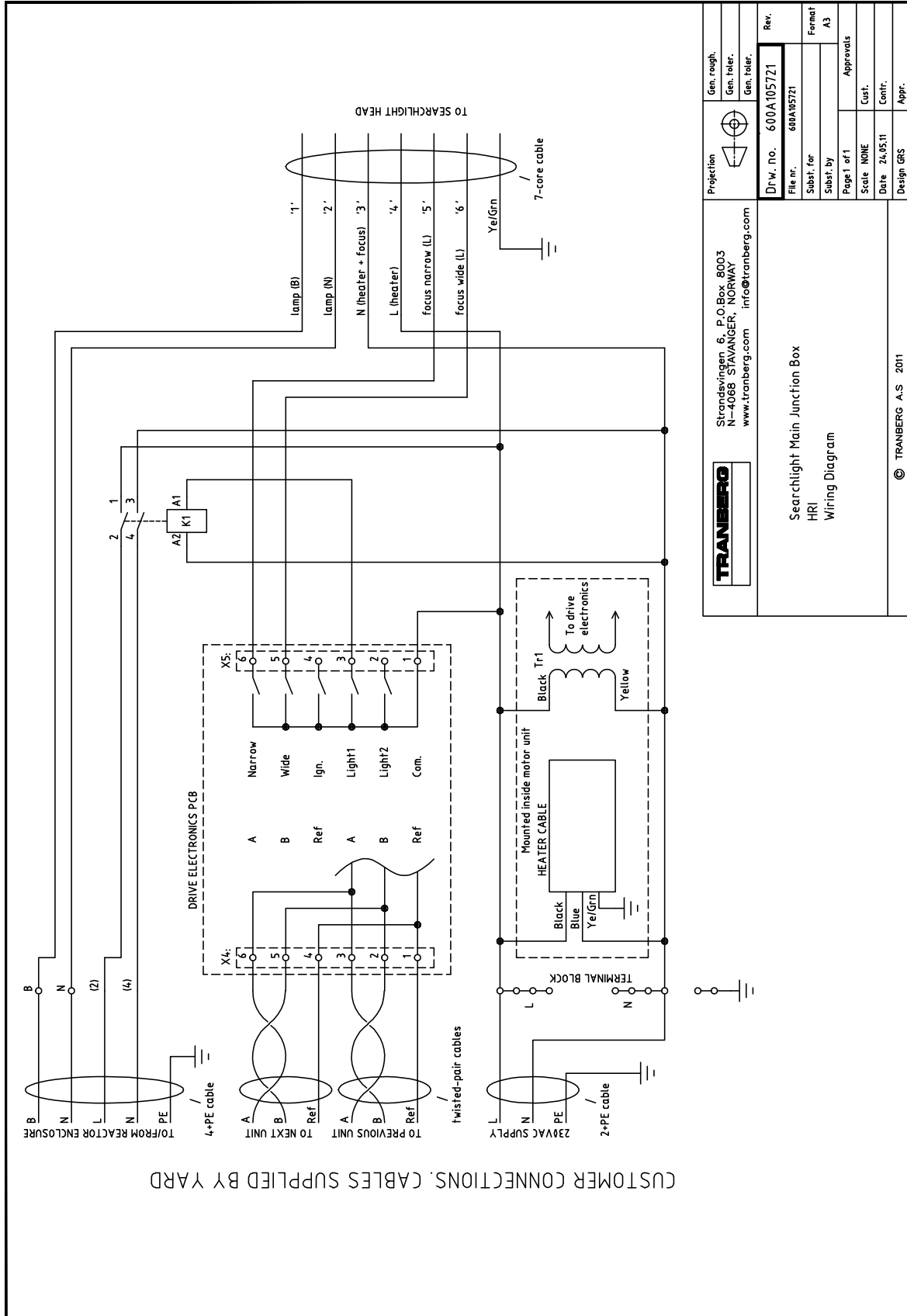
600A105641- REACTOR ENCLOSURE FOR HRI, GA AND WIRING DRAWING



| | | | | | |
|---|--|---|-----------|--|--|
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| Reactor Enclosure for 1000W HRI lamp Commander Searchlight, HRI General Arrangement and Wiring Diagram | | Draw.no. 600A105641 | Rev. | Gen. rough. | |
| | | File nr. 600A105641 | | Gen. fabr. | |
| | | Subst. for | Format | Gen. teler. | |
| | | Subst. by | A4 | | |
| | | Page 1 of 1 | Approvals | | |
| | | Scale 1:4 | Cust. | | |
| | | Date 2005/11 | Confr. | | |
| | | Design GRS | Appr. | | |
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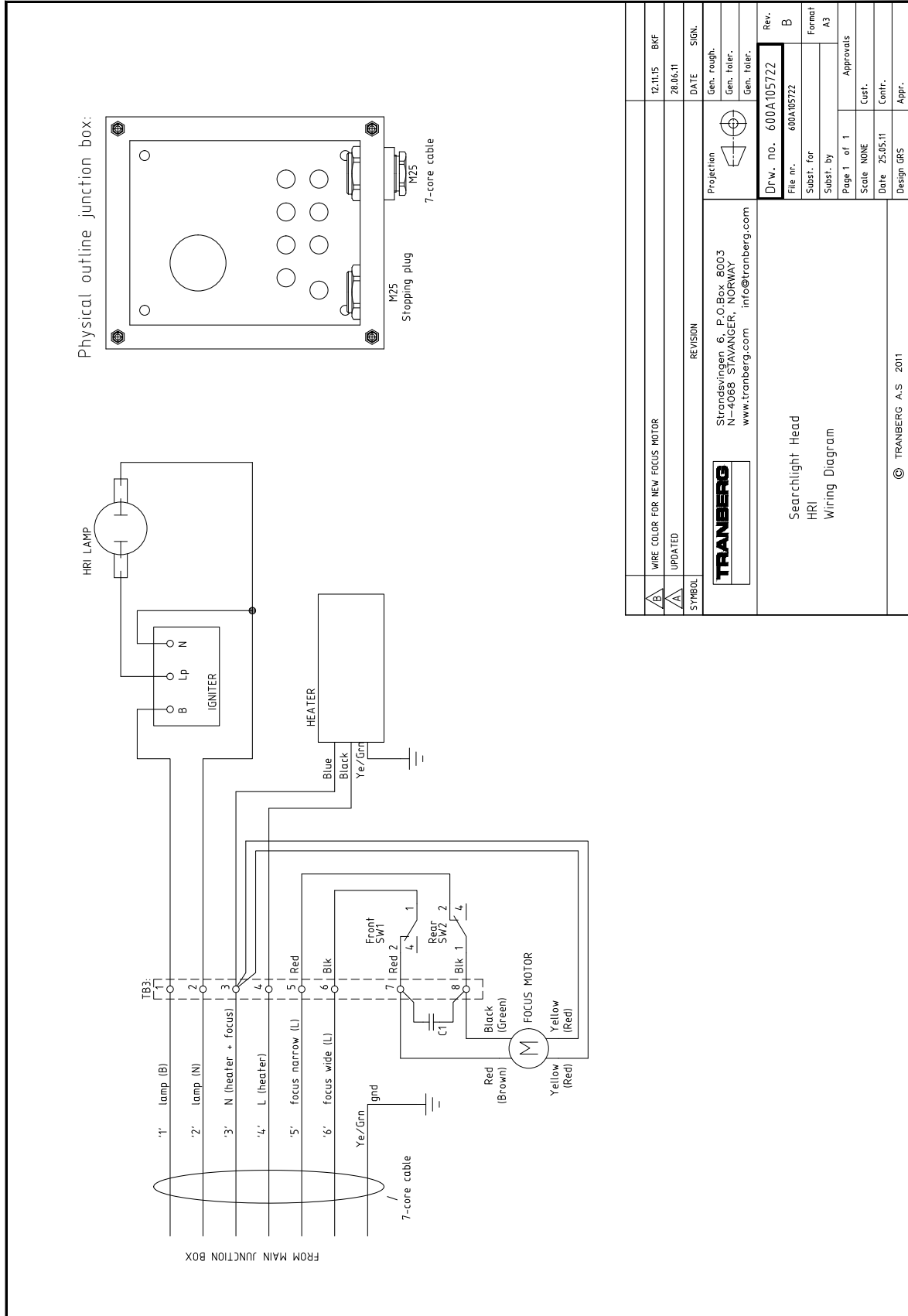
600A105720 - GA DRAWING OF JUNCTION BOX FOR SEARCHLIGHT HRI





| | | | | | |
|--|--|---|---------------|---|--|
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| Searchlight Main Junction Box HRI Wiring Diagram | | Dr.w. no. 600A105721 | Rev. | Gen. rough. Gen. toler. Gen. toler. | |
| | | File nr. 600A105721 | Subst. for | Format A3 | |
| | | Subst. by | Page 1 of 1 | Approvals | |
| | | Scale NONE | Date 24.05.11 | Cust. Contr. | |
| | | Design GRS | Appt. | | |
| | | © TRANBERG A.S. 2011 | | | |

600A105722 - WIRING DIAGRAM FOR TEF 2650 HRI, SEARCHLIGHT HEAD





TRANBERG

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