



Technical Manual

for searchlight

- ☐ SH 310 R10
- ☐ SH 370 R10
- ☐ SH 470 R10

- ☐ 115V AC
- ☐ 230V AC

- ☐ 650W
- ☐ 1000W
- ☐ 2000W

This manual belongs to the product

Serie no.: _____

Controlled by: _____

Date: _____

Introduction

For more than half a century, **Norselight** have designed and manufactured lighting products for marine vessels. Through on- going customer focussed product development, **Norselight** continue to deliver quality products as demanded both at sea and on the rugged coastlines as the Norwegian.

This commitment to quality and expertise provides the foundation for **Norselight** to be possibly the world's leading supplier of maritime lighting.

However, in order to stay in front, **Norselight** would very much appreciate all comments that you may have regarding our quality products or services.

Customer Service

The Customer Service department of GLAMOX Production GmbH & Co. KG will be pleased to help you when ordering spare parts, for maintenance and repair work as well as in case of problems and questions.

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We would also like to use this opportunity to thank you for choosing **Norselight**.

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Norselight AS operates a policy of continuous development. On this basis we reserve the right to make changes and improvements to all of our products and documentation.

1. General description

Searchlight SH 310-370-470 R10 consisting of:

1. **The searchlight** is made from seawater resistant aluminium, welded and finished with white silicon topcoat. The lamp housing basically contains a 650W, 1000W or a 2000W lamp, a glass-reflector covered with silver and a focus-motor for adjustment of the Lightbeam.
2. **The motor housing R10** is made from seawater resistant aluminium, welded and finished with white corrocoat polyester. The motor housing basically contains one motor for vertical and another one for horizontal movement, and a thermostat driven heating element.
3. **The control panel** is designed for console or bulkhead mounting.

It contains the following functions:

- Main power on/off
- Lamp on/off
- Joystick for panning and tilting
- Speed regulator for panning and tilting
- Indication lights for searchlight position
- Focus adjustment switch (additional)
- Fuse

4. Guarantee:

The guarantee is only valid against production faults. It do not cover damage caused by transportation, damage due to disregard of this technical Manual or adverse external effects.

2. Technical description

Properties			Value					
Searchlight			SH 310		SH 370		SH 470	
Dimension		Height:	870 mm		910 mm		1020 mm	
		Width:	470 mm		515 mm		615 mm	
		Weight on searchlight:	32 kg		36 kg		41 kg	
		Weight on R10 panel:	4.6 kg		4.6 kg		4.6 kg	
Power supply			115V/230V AC					
Vertical movement:		Speed:	1-10 °/sec +25 °/-30 °					
		Range:						
Horizontal movement:		Speed:	1-20 °/sec ± 170 °					
		Range:						
Lamp type			650W		1000W		2000W	
Working voltage			115V	230V	115V	230V	115V	230V
Working current			5,7A	2,8A	8,7A	4,3A	17,4A	8,7A
Lifetime			100h	750h	750h	750h	400h	400h
Luminous flux			16 800 lm		27 500 lm		52 000 lm	
Focal distance			88,9 mm		120,6 mm		127 mm	
Divergence:		SH 310	10 °		11 °		10,8 °	
		SH 370	7,4 °		8,3 °			
		SH 470	7 °		7,9 °			
Range at 1 lux:		SH 310	1490 m		1540 m		2366 m	
		SH 370	1386 m		1571 m			
		SH 470	1802 m		2043 m			
Reflector <i>Parabolic silver plated</i>			<i>dia: 12'' (305mm)</i>		<i>dia: 14'' (356mm)</i>		<i>dia: 18'' (457mm)</i>	
Drum and motor housing material			Seawater resistant aluminium 57S					
Fork and lifting rod material			Stainless steel SIS AISI 304					
Screw joint material			Stainless steel A4					
Surface treatment			Corrocoat polyester					
Protection class			IP 56					

3. Installation

3.1. Mechanical installation

The searchlight must be mounted on a horizontal surface using 4 stainless screws. See drawing D-R10-16.

The main control panel is designed for installation indoors on the bridge. See drawing D-R10-R40-01.

The sub control panel where applicable is constructed for console or bulkhead mounting. Both the main panel and the sub panel can be delivered in a protected cabinet. See drawing D-R10-R40-01.

3.2. Electric installation

Power supplied to the control panel can be 230/115V AC according to drawing E-R10-49.

Power supplied to the lamp unit can be 115/230V AC according to drawing E-R10-06.

Before one or more sub panels are connected, remove the two straps on the connection block TB1A. Look at drawing E-R10-06/46/47/135 to identify the correct block.

4. Operation

4.1. Start up procedure (Look at drawing D-R10-R40-01)

- "Main" (pos. 10) On / Off switch, will give power to the lamp housing. The motors may be operated when the switch is On.
- "Lamp" (pos. 10) On / Off switch will light the bulb.
- "Speed" (pos. 13) Adjust the motor speed vertically and horizontally in the range 1 and 20°/sec.
- "Focus" (pos.5) Adjust the lamp focus. (additional)

4.2. Change of the lamp (Look at drawing D-R10-53)

- Turn off the main and the lamp switch on the control panel.
- Change the bulb.

Be careful, to not damaged any parts. Check the lamp housing gasket for leakage.

4.3. Maintenance

Performed at intervals not exceeding 6 months:

- Control of all gaskets and cable glands.
- Control of all screw and nut connections.
- Reflector and front glass to be cleaned with a soft cloth and alcohol.

Note: Do not touch the bulb with bare hands or anything greasy. The bulb must be clean.
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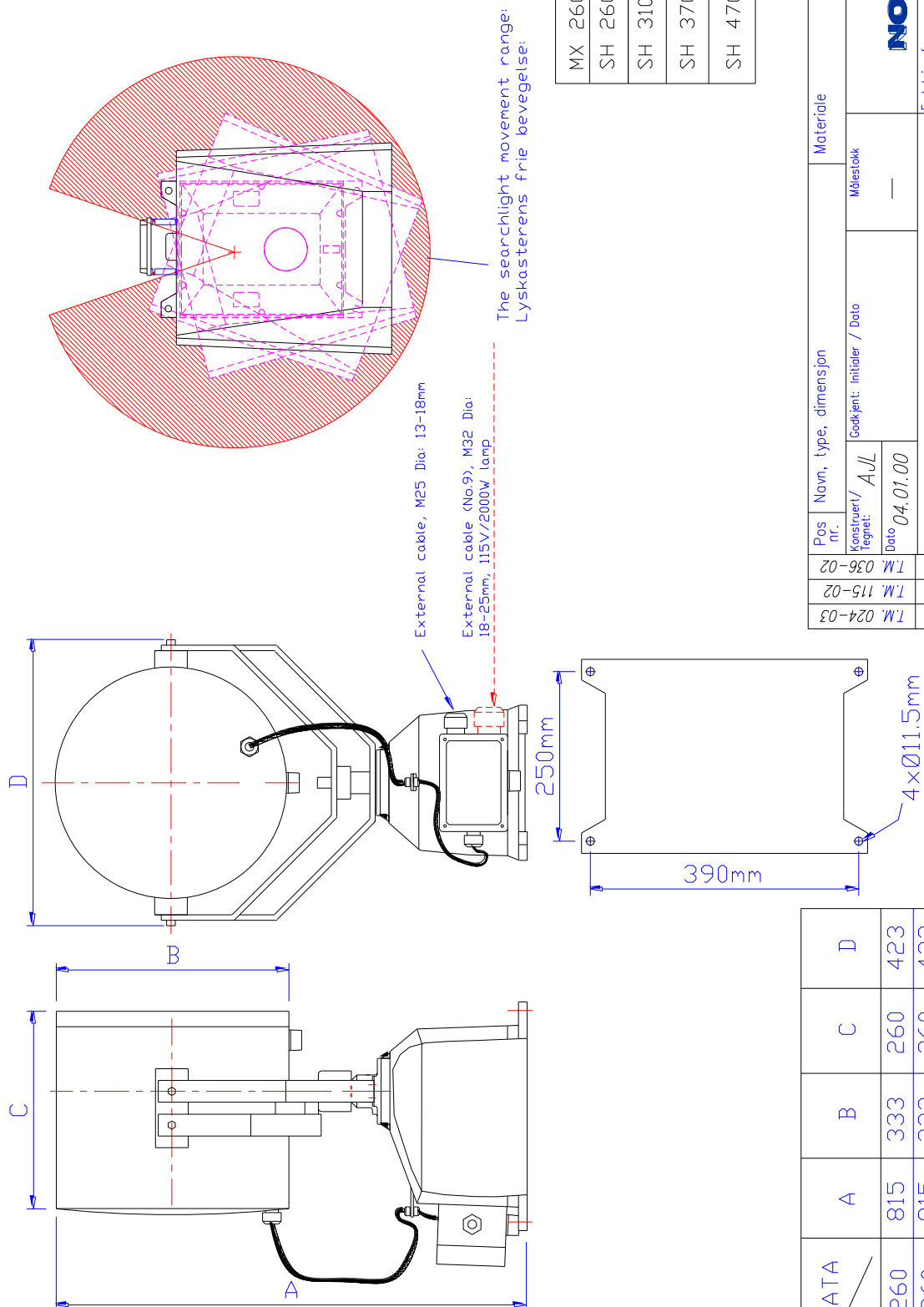
5. Spare Parts list

5.1. Spare Parts for lamp and motor housing (Look at drawing D-R10-53)

Spare parts		Type/ Article no.			Pos. nr.
Lamp	230V	650W / 1701003	1000W / 1701002	2000W / 1701001	6
Lamp holder	230V	GX9.5 / 3024503		GY16 / 3024505	7
Transformer	230V	Norselight			22
Focus motor	230V	3025556			17
Heating element	230V	3023390			15
Lamp	115V	650W / 1701006	1000W / 1701005	2000W / 1701004	6
Transformer	115V	Norselight			22
Lamp holder	115V	GX9.5 / 3024503		GY16 / 3024505	7
Focus motor	115V	3025557			17
Heating element	115V	3023391			15
Searchlight		SH 310	SH 370	SH 470	
Reflector		3020003	3020004	3020005	1
Front glass		3028703	3028704	3028705	4
Front ring		4021266	4021263	4021265	9
Reflector ring		4021271	4021270	4021269	2
Vertical motor	24V	3021250			21
Horizontal motor	24V	3021250			21
Glass gasket		3029756			3
Stripper VS 120		3029761			12
Thermostat		3023446			13
Stripper VS 45		3029760			11

5.2. Spare parts for main panel (Look at drawing D-R10-R40-01)

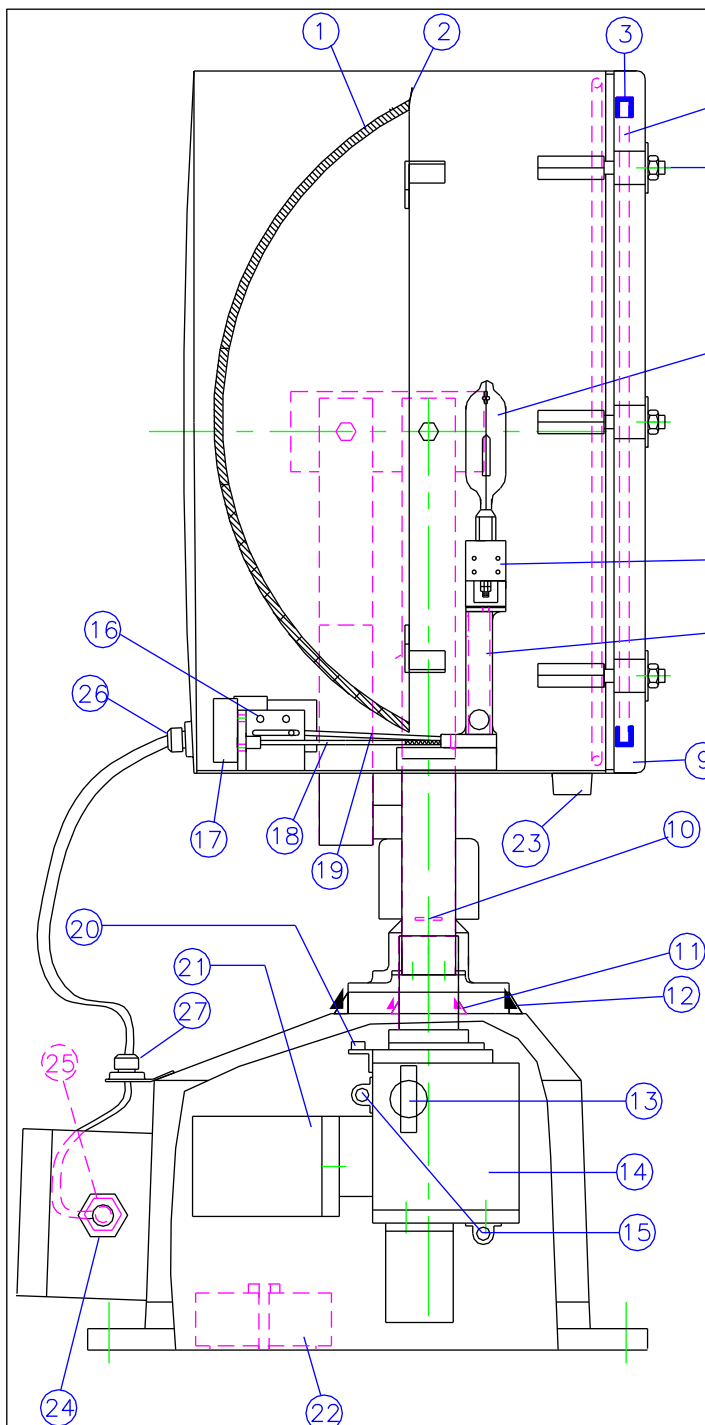
Spare Parts	Type	Article no.	Pos no.
Joystick	Norselight	3021311	3
Main card	Norselight	3023380	4
Toggle switch	Norselight	3023445	10
Cabel	Norselight	Norselight	1



MX 260	430mm
SH 260	430mm
SH 310	480mm
SH 370	520mm
SH 470	620mm

DATA TYPE	A	B	C	D
MX 260	815	333	260	423
SH 260	815	333	260	423
SH 310	870	420	330	470
SH 370	910	420	360	515
SH 470	1020	420	360	615

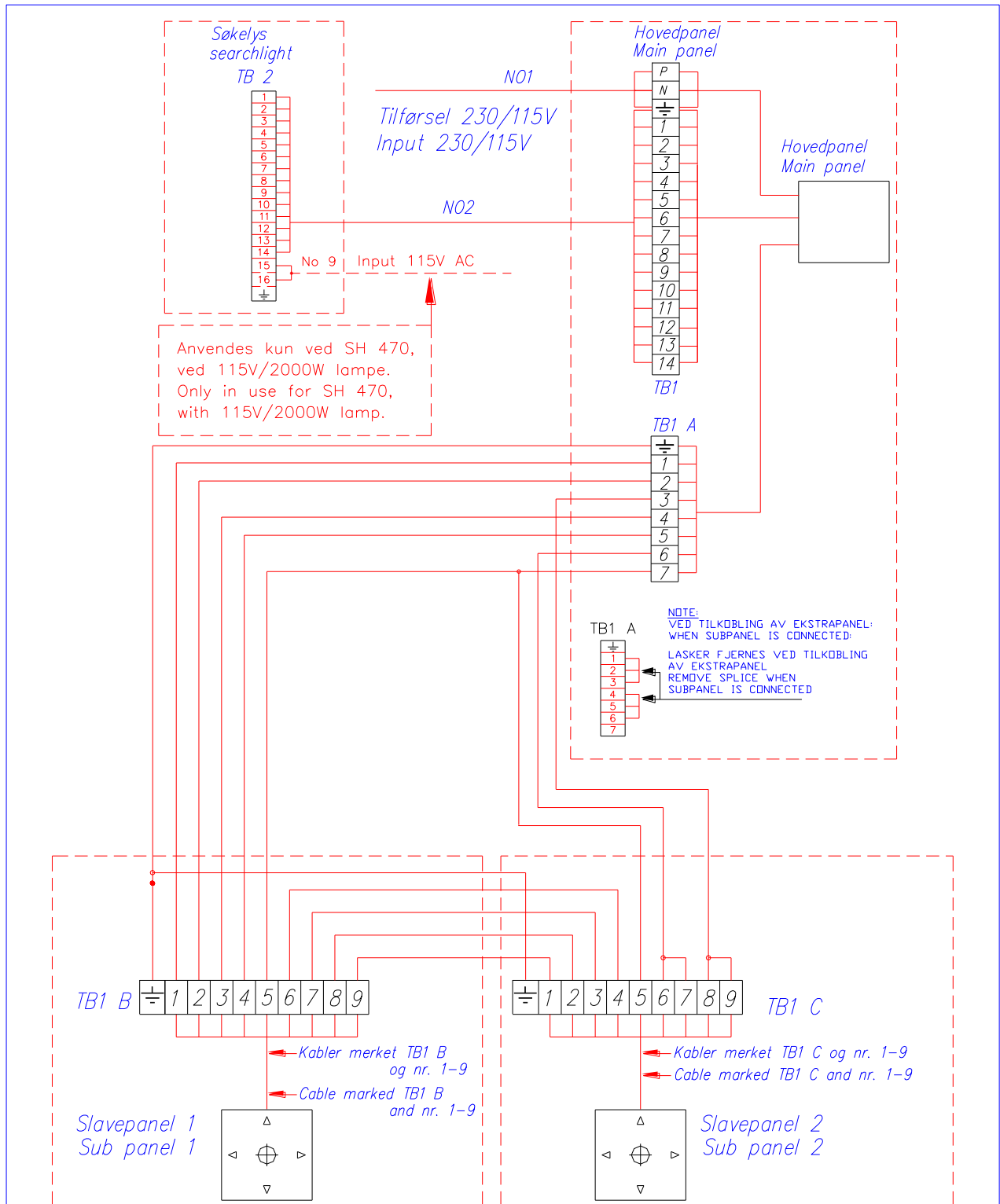
Pos. nr.	Navn, type, dimensjon	Materiale	Art.nr
T.M. 024-03	Konstruert/ Tegnet:	Møtesjakk	NORSElight
T.M. 115-02	Dato		
T.M. 036-02	04.01.00	—	
T.M. 115-02	Dim. of Halogen R10 and Micro Xenon	Ersattning for: D-R10-16-2	Ersattlet av:
T.M. 024-03	Dim. av Halogen R10 og av Micro Xenon SH 260-310-370-470, MX 260		
120603 FH			Ulgave
291102			3
310102			D-R10-16
4			Papirformat: A4
8			Prosjektsjansmet. 



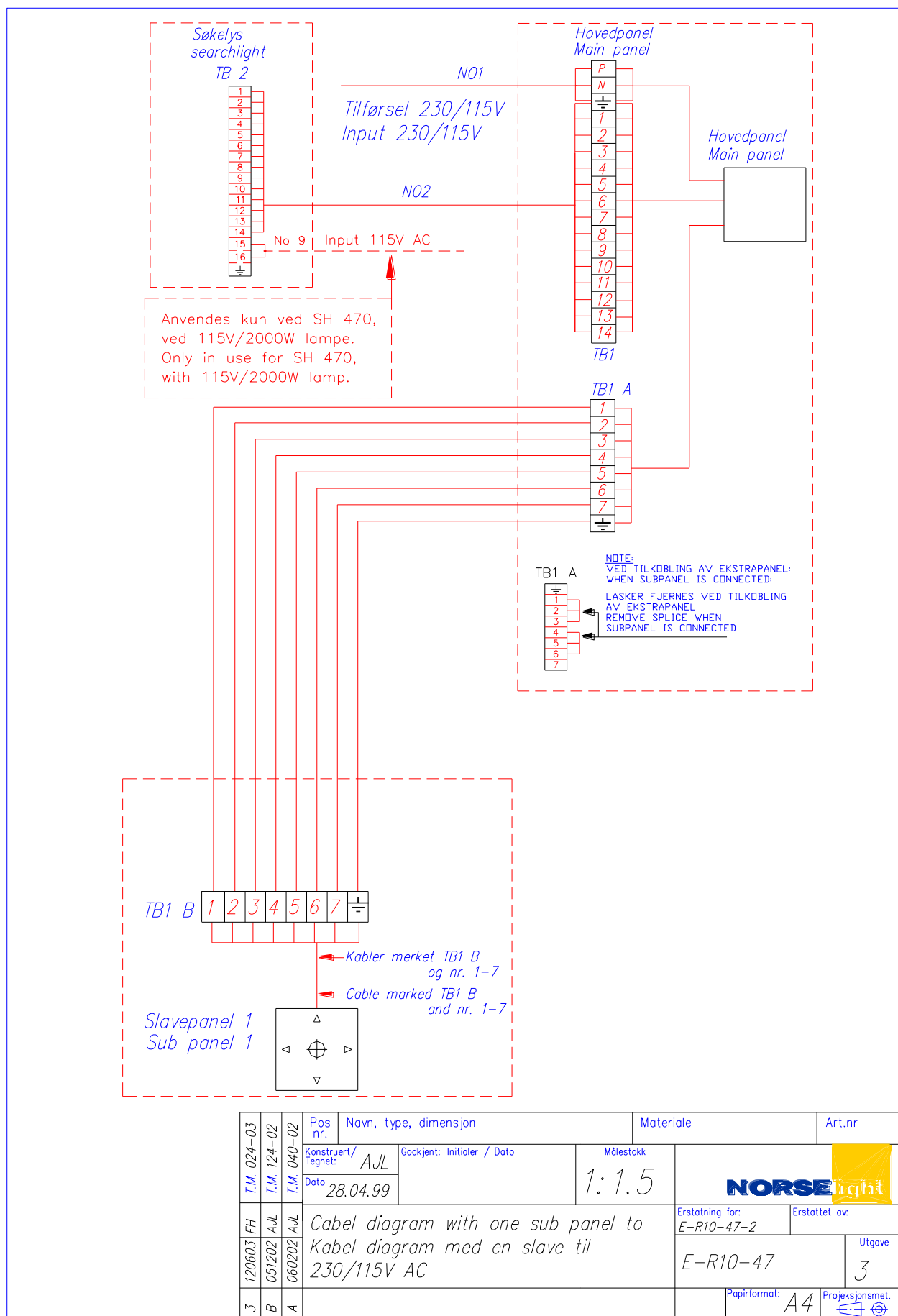
(Only in use with supply over 24V DC).

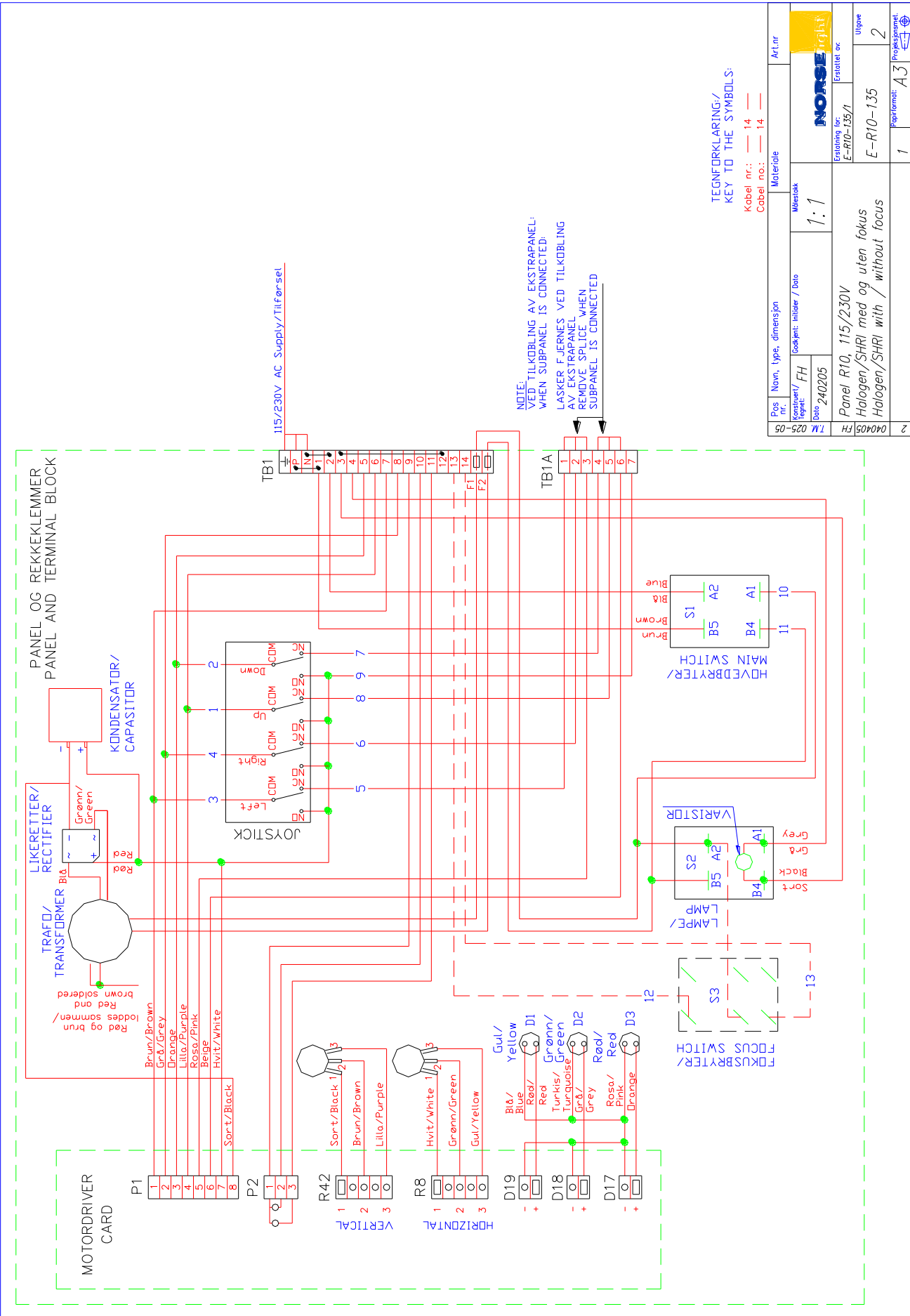
27	Nipple PG 13.5	3040997
26	Nipple PG 13.5	3040997
25	Nipple PG 16	3040944
24	Nipple PG 21	3040946
23	Drainer	3040347
22	Transformer with 24V DC lamp	See p.8
21	Vert./Hor. motor	3021250
20	Micro switch	3023420
19	Aktivator Ø3	N. A/S
18	Focus screw	4021233
17	Focus motor	See p.8
16	Micro switch	3023420
15	Heating element	See p.8
14	Motor gir	3025550
13	Thermostat	3023446
12	Stripper VS 120	3029761
11	Stripper VS 45	3029760
10	Fork gasket	3021188
9	Front ring	See p.8
8	Lamp arr.	4021115
7	Lamp holder	See p.8
6	Lamp Halogen	See p.8
5	Clamping bolt	4021282
4	Front glass	See p. 8
3	Glass gasket	3029756
2	Reflector ring	See p. 8

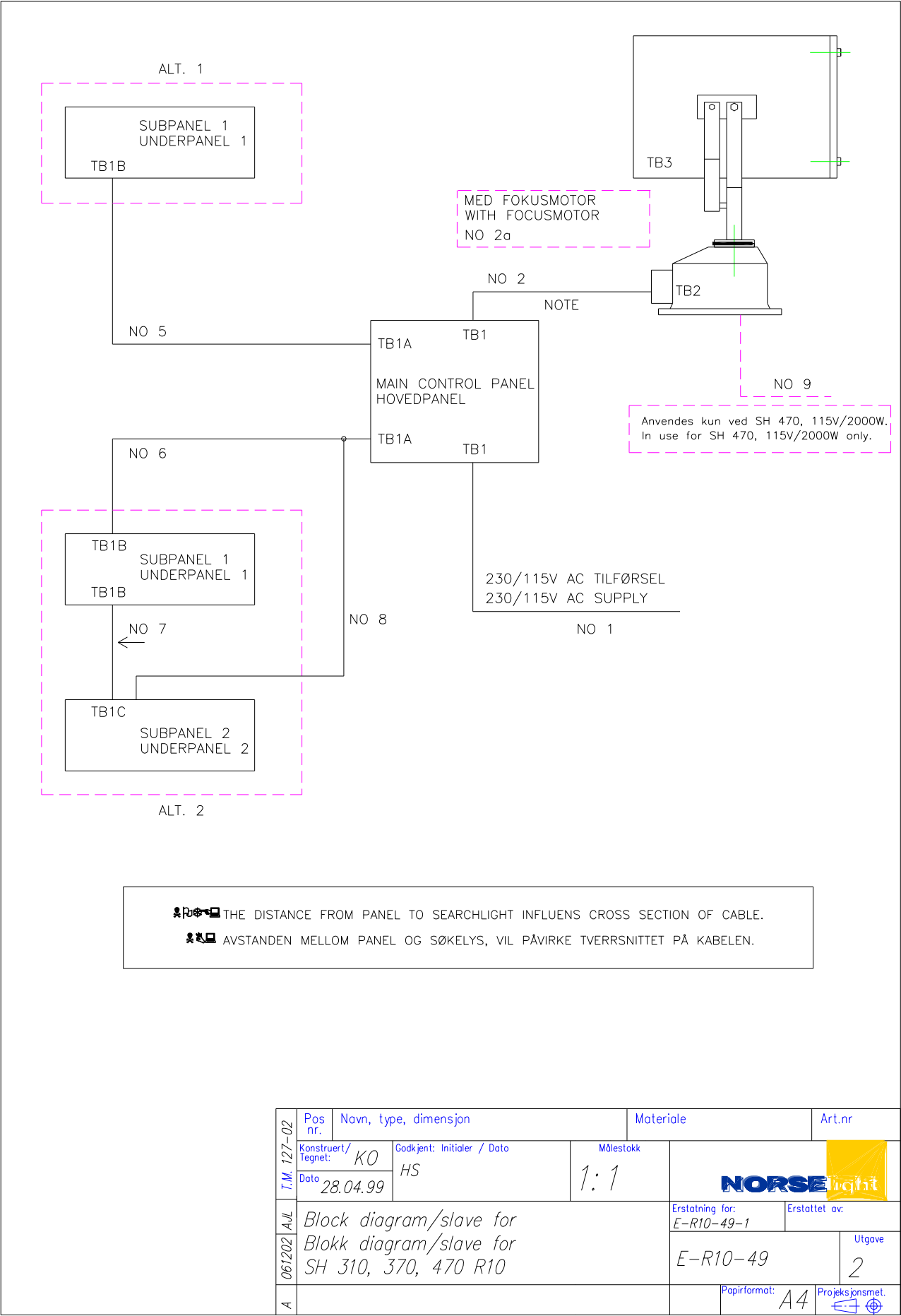
1	Reflector					See p.8
	Pos. nr.	Navn, type, dimension		Materiale		Art.nr.
T.M. 038_02	Dato	Konstr./Tegnet		Målestokk		
	07.02.00	A.J.L.				
	Kontroll	Stand.kontr.	Godkjent	Prosjektansm.		
			HS			
05.02.02 A.L.	Assembly drawing of SH 260-310-370-470 R10				Erstatning for:	
					Erstattet av:	
					D-R10-53	
4	Henvisning:		Beregning:		Katalog:	
					aktiveringsnummer	

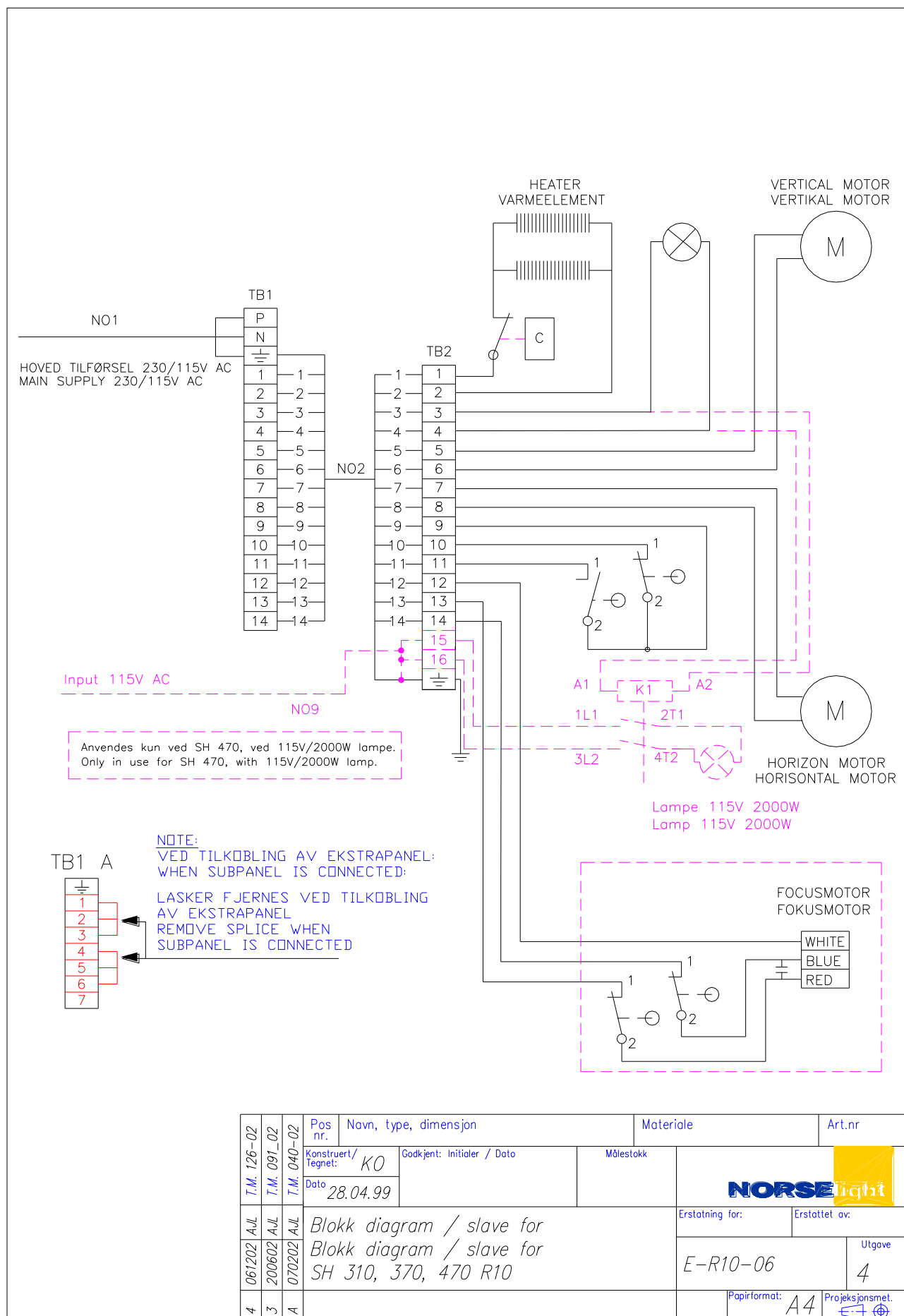


T.M. 024-03	Pos nr.	Navn, type, dimensjon	Målestokk	Materiale	Art.nr
T.M. 123-02	Konstruert/ Tegnet: AUL	Godkjent: Initialer / Dato	1:1.5		
T.M. 040-02	Dato 28.04.99				
FH	120603	051202	Cabel diagram with two sub panel Kabel diagram med 2 slaver 230/115V AC		
A	060202	AUL	Erstatning for: E-R10-46-2		
B	3	A	Erstattet av: E-R10-46		
			Utgave 3		
			Papirformat: A4		
			Projeksjonsmet.		

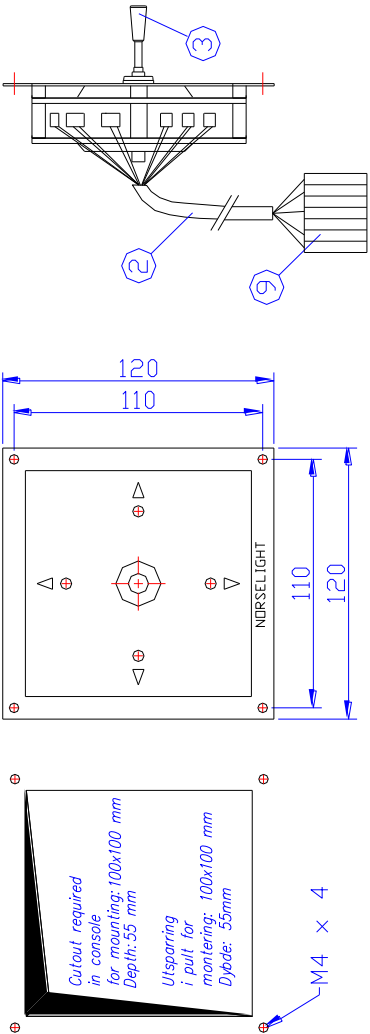








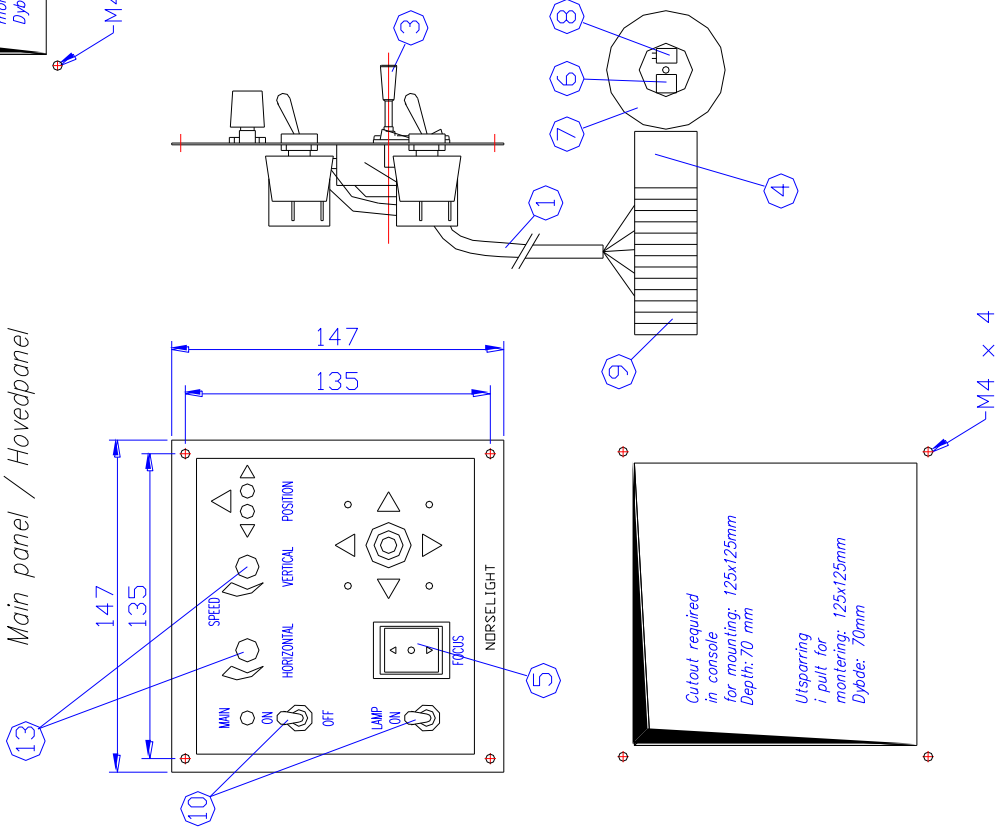
Sub Panel / Slave Panel



13	Potentiometer / Potensiometer	3023472
10	Toggle switch / Vippebryter	3023445
9	Terminal block/Rekkelemme	3027652
8	Capacitor/Kondensator	3023800
7	Trafo/Transformator 230V	3022382
7	Trafo/Transformator 110V	3022370
6	Rectifier / Likeretter	3022385
5	Toggle switch / Vippebryter, 230V	3023474
4	PC-board / Strømløpskort	3023380
3	Joystick, 5A	3021311
2	Cable / Kabel (12x0,75mm)	3026601
1	Cable / Kabel	Norselight

Pos nr.	Navn, type, dimensjon	Målestokk	Art.nr
Konstruert/ tegnet: T.M. 018-05	Godkjent: Initialer / Dato	1:3	
Dato: T.M. 027-05			
Cutout main panel/Utsparing Hovedpan.			
Sub panel / Slavepanel , SH/SHRI			
R10-R40 , XR 150 R20 24/115/230V			
1	070305 FH	070305 FH	Utgave
2	080405 FH	080405 FH	2
		Papirformat: A4	Prosjektskemat.

Main panel / Hovedpanel



Cabel diagram for SH 310, 370, 470 R10

NO. NR.	CABLE KABEL		INSTRUCTION INSTRUKS	CONNECTION FROM TILKOBLING FRA	CONNECTION TO TILKOBLING TIL
	TYPE	DIM.			
1	Marine grade braided cable.	3 x approved cross section	POWER SUPPLY	230/115V AC	TB1 (P , N , )
2a		15 x approved cross section	EXT.CONN.	TB1 / 1-14- 	TB2 / 1-14- 
2		12 x approved cross section	EXT.CONN.	TB1 / 1-11- 	TB2 / 1-11- 
5		8 x approved cross section	EXT.CONN.	TB1 A / 1-7- 	TB1 B / 1-7- 
6		6 x approved cross section	EXT.CONN.	TB1 A / 1,2,4,5,7- 	TB1 B / 1-5- 
7		5 x approved cross section	EXT.CONN.	TB1 B / 6-9- 	TB1 C / 1-4- 
8		3 x approved cross section	EXT.CONN.	TB1 A / 3,6,7	TB1 C / 5,6,8
9		3 x approved cross section	EXT.CONN.	115V AC	TB2 / 15,16 - 

NOTE: THE DISTANCE FROM PANEL TO SEARCHLIGHT INFLUENS CROSS SECTION OF CABLE.