KD POWER CONTROLLER

Control and monitor subsea light sources

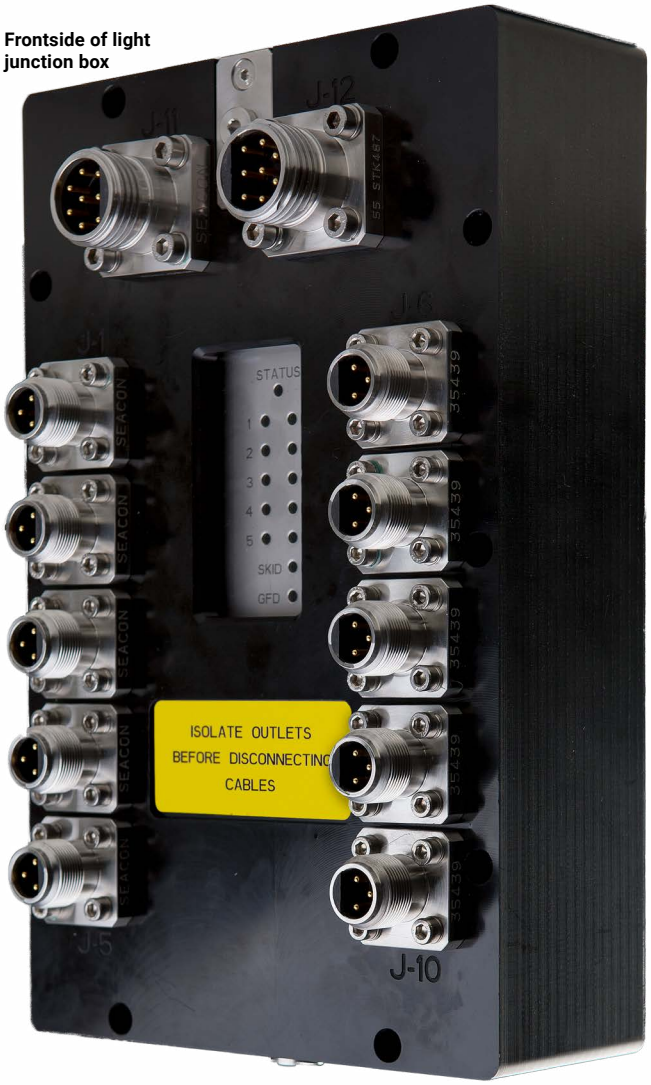
The controller is mainly used to control and monitor subsea light sources, on/off and dimming (phase control). A serial communication interface is used to remotely control and monitor the outputs. But the outputs can also be used to power other types of equipment.

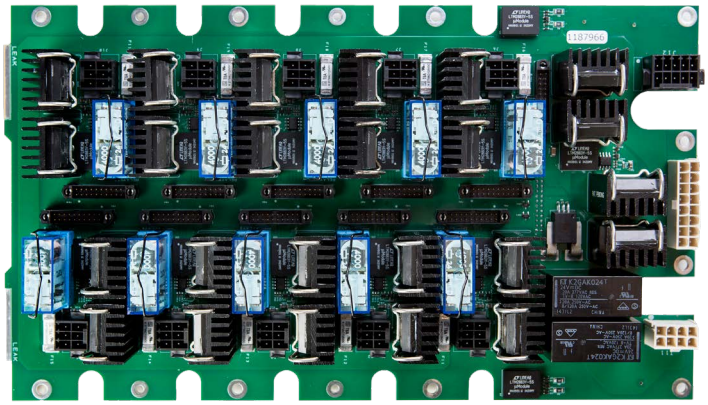
A mimic panel displays the status of each outlet, GFD and an overall status. Each outlet have individual electronic fuse, hardware fuse and relay for isolation. The communication interface reports each outlets power consumption and fuse state, and the electronic fuse can be reset by the operator. Fuses have two functions, short circuit protection and overload protection. Each outlets function is controlled by individual interchangeable sub controllers. This makes it possible to control the outputs in various ways, phase dimming (default), serial control, voltage control (0-5/0-10V) or PWM.

FEATURES	
Power	• Main inlet 0-240V dc or ac (will apply to all outputs) • Controller needs separate 24Vdc to run
Outputs	• 10 outputs @ 6A phase dimmed (other on request) • 1 high power output @ 20A (on/off control) + RS232
Communication	• Serial, RS232/RS485 • Baudrate 9.6k, 38.4k, 57.6k and 115.2k
Inputs	• Leak detect, 1 internal and 1 external • Temperature sensor PT100
Connectors	• 10 x Seacon 55 series 1503 (other on request) • 2 x Seacon 55 series 2008 for high power outlet and main coms

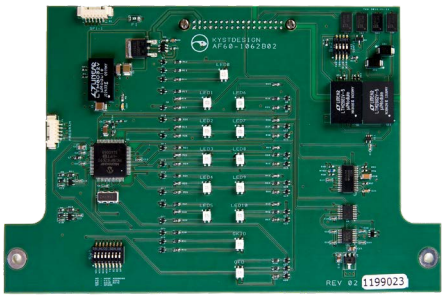
PART NO:		
101322	AF60-1000-B01	LIGHT BOARD
101323	AF60-1000-B02	LIGHT CONTROL
101324	AF60-1000-B03	DIMMER 6A PHASE
101336	AF60-1000-B03	SWITCH 20A

Frontside of light junction box

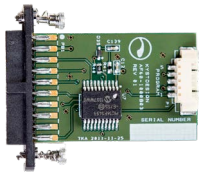




Light board



Light control



Dimmer 6A phase

KYSTDESIGN AS

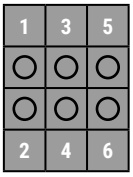
Eikeskogvegen 80 - 5570 Aksdal, Norway
post@kystdesign.no - Phone: +47 52 70 62 50

www.kystdesign.no

KYSTDESIGN
SUB-SEA TECHNOLOGY

AF60-1062B01 LIGHT BOARD

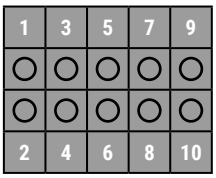
PIN-OUTS



J1-10 LIGHTS

HOUSING: WAGO 713-1103/0037-9037
Fields marked in orange are not currently implemented (future use)

PIN	NAME	DESCRIPTION	AWG
1	AC LINE	Switched AC voltage supply output – LIGHT	16-20
2	DATA- (RD)	LIGHT Comms interface - RS232 Receive Data / RS485 Data-	20-26
3	AC GND	Switched AC voltage supply output – LIGHT	16-20
4	0V REF	LIGHT Comms interface - Signal 0V Reference RS232/485	18-24
5	AC NEUT	Switched AC voltage supply output – LIGHT	16-20
6	DATA+ (TD)	LIGHT Comms interface - RS232 Transmit Data/RS485 Data+	20-26



J12 POD

HOUSING: WAGO 713-1105/0037-9037

PIN	NAME	DESCRIPTION	AWG
1	RS232 0V REF	SKID Comms interface 0V reference	18-24
2	SUPPLY 0V	Board Voltage Supply 0V	18-24
3	SUPPLY +24V	Board Voltage Supply +24V	18-24
4	RS232 DOWN-LINK	SKID Comms interface Downlink	20-26
5	RS232 UPLINK	SKID Comms interface Uplink	20-26
6	RS485 DATA+	Board Comms interface RS485 Data Plus	20-26
7	RS232/485 0V REF	Board Comms interface 0V reference RS232/RS485	18-24
8	RS485 DATA-	Board Comms interface RS485 Data Minus	20-26
9	RS232 TD	Board Comms interface Transmit Data	20-26
10	RS232 RD	Board Comms interface Receive Data	20-26

J11 SKID

HOUSING: MOLEX 39-01-2080 (39-01-2085)
TERMINALS: 55750-3111(16AWG) AND 45750-1111(18-20AWG)

PIN	NAME	DESCRIPTION	AWG
1	RS232 UPLINK	SKID Comms interface – Uplink Signal Direction	20-26
2	RS232 0V REF	SKID Comms interface – Signal 0V Reference RS232/485	18-24
3	RS232 DOWN-LINK	SKID Comms interface – Downlink Signal Direction	20-26
4	AC GND	Switched AC voltage supply output – SKID	16
5	AC NEUT	Switched AC voltage supply output – SKID (2 x 16AWG)	16
6			16
7	AC LINE	Switched AC voltage supply output – SKID (2 x 16AWG)	16
8			16

Warning! All dual AC supply pins needs to be terminated by 16AWG wire (1,5mm2). Else connector will fail.

J13 TERM

HOUSING: MOLEX 39-01-2080
TERMINALS: 45750-3111(16AWG) AND 45750-1111(18-20AWG)

PIN	NAME	DESCRIPTION	AWG
1		No Connection	
2	LEAK 0 SHIELD	LEAK 0 Cable Shield (0V)	18-24
3	LEAK 0 REF	LEAK 0 Signal Reference (0V)	18-24
4	LEAK 0	LEAK 0 Signal (activated when shorted to 0V reference)	18-24
5	RTD-1	PT100 Temperature Sensor – Terminal A1	20-26
6	RTD-2	PT100 Temperature Sensor – Terminal A2	20-26
7	RTD-3	PT100 Temperature Sensor – Terminal B	20-26
8	AC GND	AC input – GND	16
9	AC LINE	AC voltage supply input – J1-10 LIGHTS	16
10			16
11	AC NEUT	AC voltage supply input – J1-10 LIGHTS	16
12			16
13	AC LINE	AC voltage supply input – J11 SKID	16
14			16
15	AC NEUT	AC voltage supply input – J11 SKID	16
16			16

KYSTDESIGN AS

Eikeskogvegen 80 - 5570 Aksdal, Norway
post@kystdesign.no - Phone: +47 52 70 62 50

www.kystdesign.no

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