



EVA Wiring diagrams

EVStream & DMX (P3 - P4)

EVStream & Piezo (P5 – P9)

EVStream & ECA-PRO (P10 – P13)

EVA RGBW lighting (P14 – P16)



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www.evastream.nl

Safety warnings



WARNING! Switch off all relevant live cables before starting installation.



RISK OF ELECTRIC SHOCK OR INJURY. The EVAstream and its control accessories must be installed by a certified electrician in accordance with applicable local rules and regulations. Incorrect installation can cause electrical hazards.

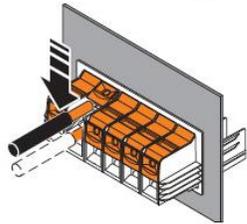
CAUTION! Carefully read the separately enclosed document “Safety instructions mounting & installation EVAstream” before proceeding to mounting and/or installation of the EVAstream and/or associated accessories and controls.

The EVAstream is a powerful machine. The machine includes a very powerful motor with rotating propeller. Carefully follow the supplied instructions for mounting, electrical installation and use of the EVAstream. Failure or insufficient compliance with these important instructions can result in serious personal injury or property damage. We do not accept any claim under warranty and/or liability for material and/or immaterial damage as a result of non-compliance with these instructions regarding installation, assembly and use.

Motor Control Unit | DMX Ready

Article: EVA-SP-xxx-MCU-DMX

Important !!! Connect all wiring before connecting to main power 230Vac



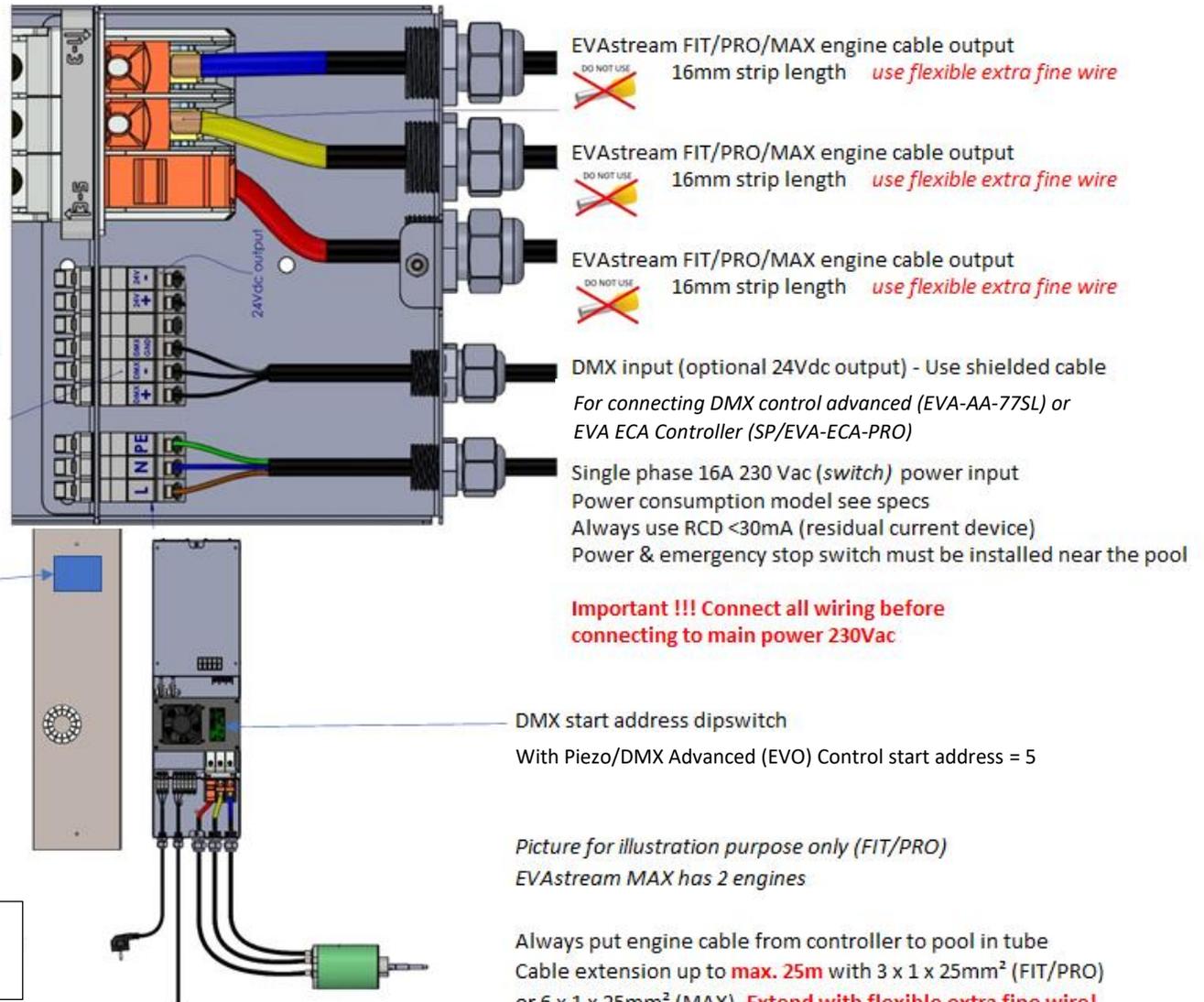
24Vdc output -
24Vdc output +

DMX input G (shield)
DMX input -
DMX input +

PE earth (green yellow)
230Vac N (neutral)
230Vac Switched L (Life)

Option for mounting
DMX controller

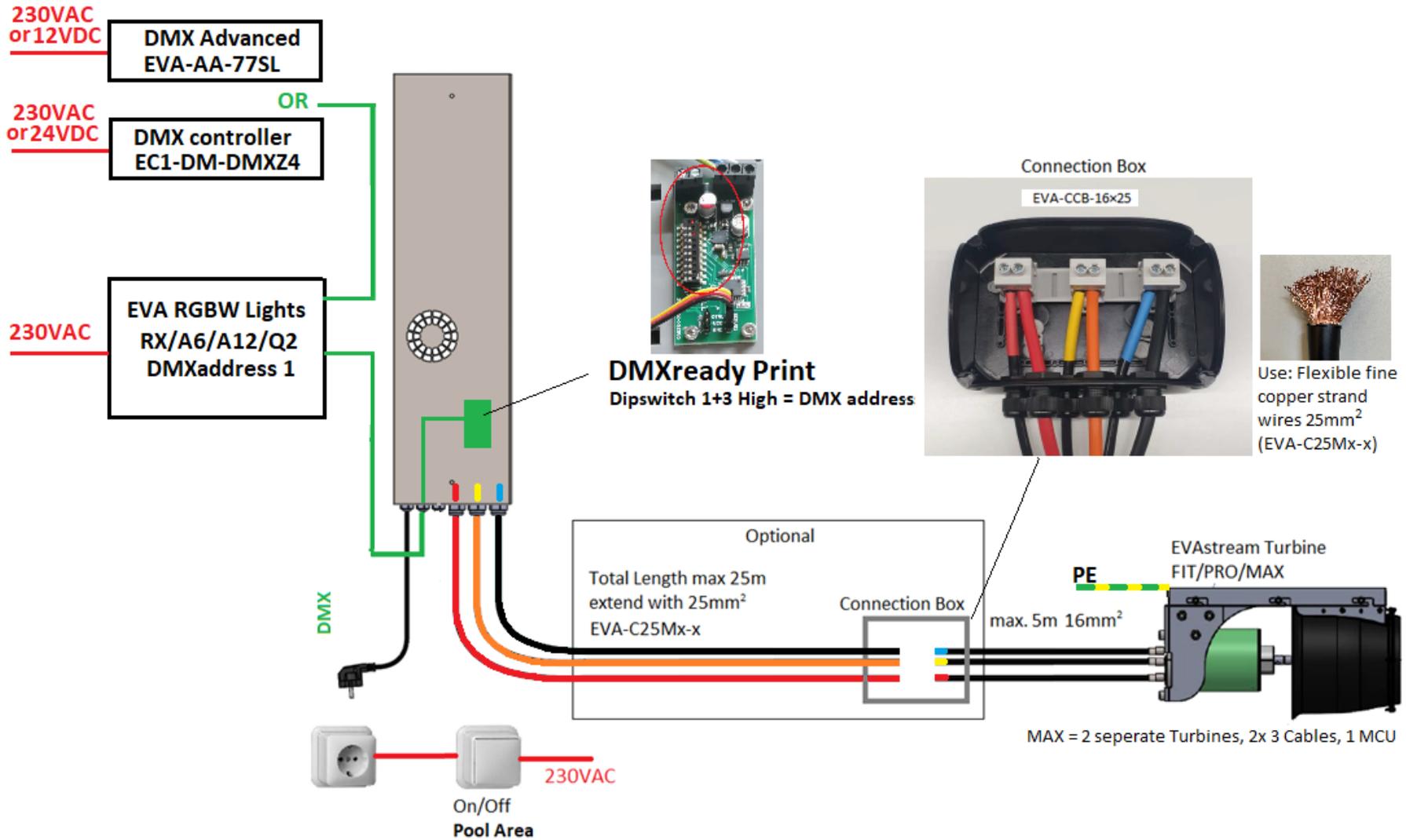
Always cut off power before
servicing the engine



EVastream FIT/PRO/MAX

DMX READY

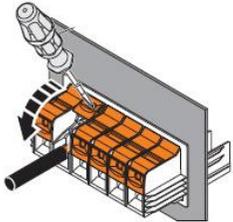
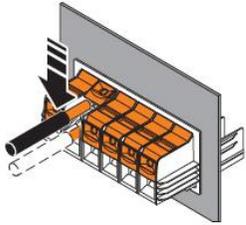
Optional RGBW Lighting (Only in combination with EVA-AA-77SL)



Motor Control Unit | Piezo Ready

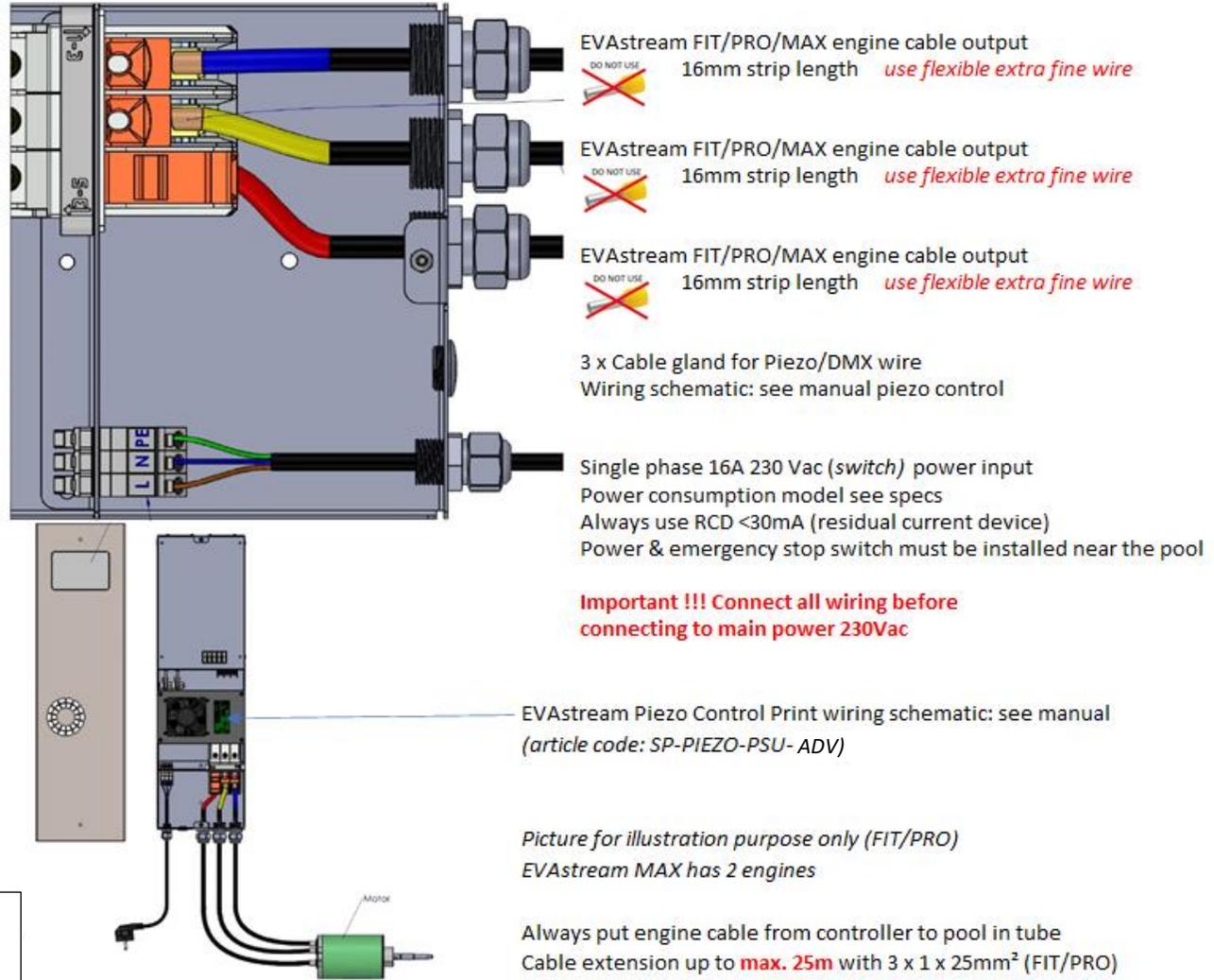
Article: EVA-SP-xxx-MCU-PIEZO

Important !!! Connect all wiring before connecting to main power 230Vac



PE earth (green yellow)
230Vac N (neutral)
230Vac Switched L (Life)

Always cut off power before servicing the engine

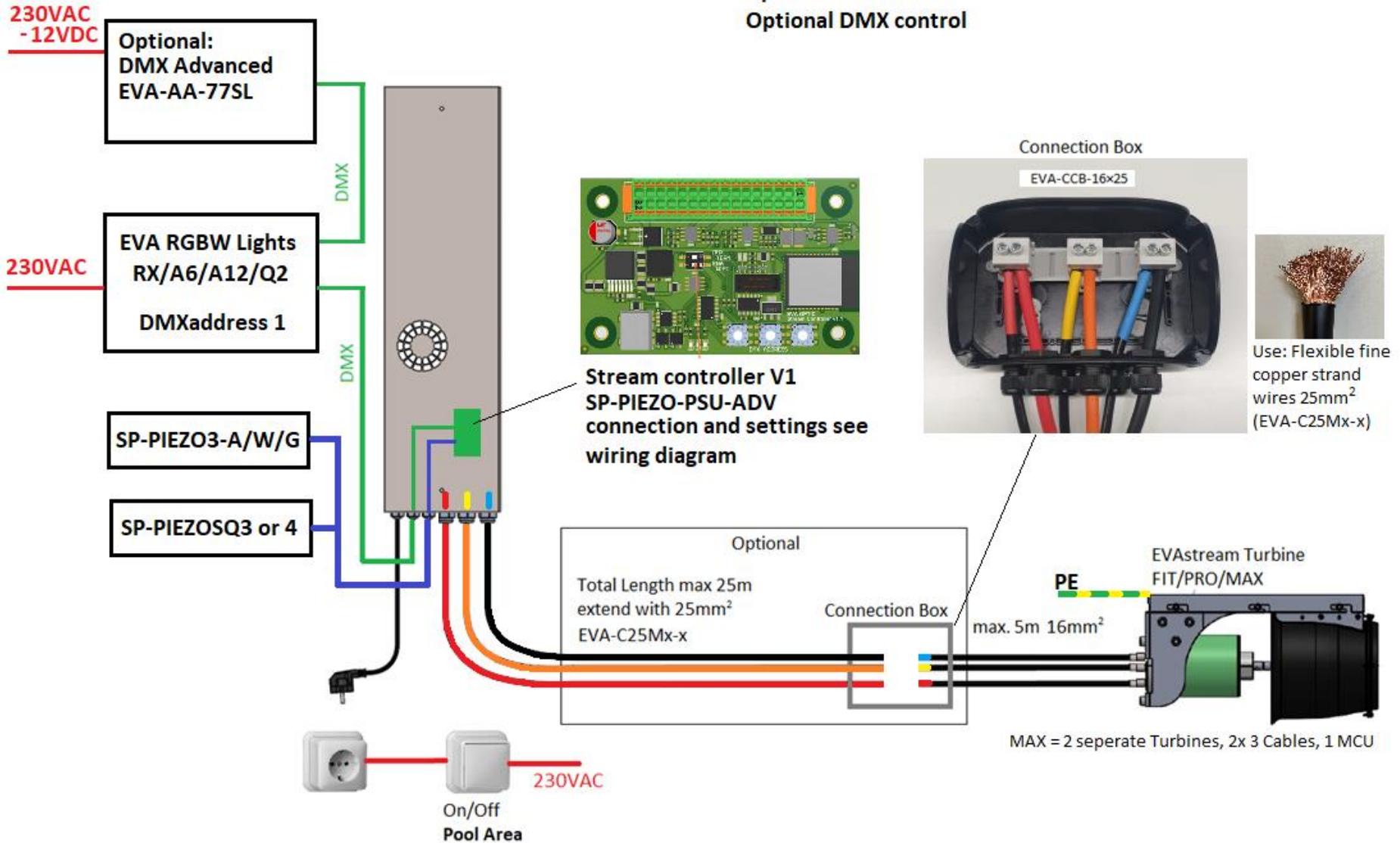


EVastream FIT/PRO/MAX

PIEZO READY

- Optional RGBW Lighting
- Optional extra PIEZO
- Optional DMX control

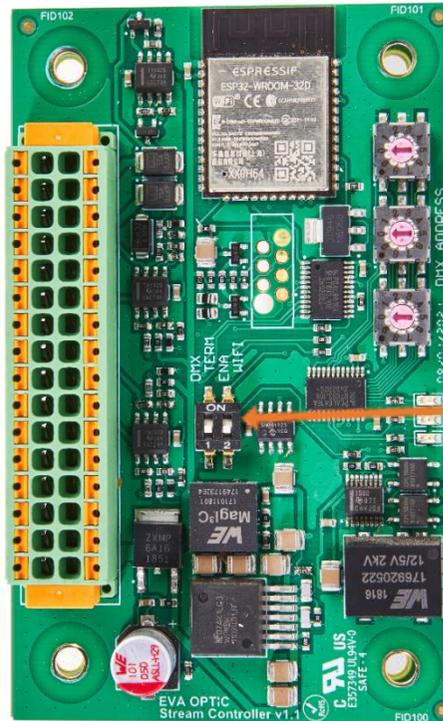
V22.2



EVStream Piezo PCB | Settings

Article: *SP-PIEZO-ADV-PCB / SP-PIEZO-PSU-ADV Stream controller V1*

fan 24Vdc	-	1	2	+	fan 24Vdc
ppm output 2	-	3	4	+	ppm output 2
ppm output 1	-	5	6	+	ppm output 1
piezo 4 LED 12Vdc	-	7	8	+	piezo 4 LED 12Vdc
piezo 4 switch	sw	9	10	sw	piezo 4 switch
piezo 3 LED 12Vdc	-	11	12	+	piezo 3 LED 12Vdc
piezo 3 switch	sw	13	14	sw	piezo 3 switch
piezo 2 LED 12Vdc	-	15	16	+	piezo 2 LED 12Vdc
piezo 2 switch	sw	17	18	sw	piezo 2 switch
piezo 1 LED 12Vdc	-	19	20	+	piezo 1 LED 12Vdc
piezo 1 switch	sw	21	22	sw	piezo 1 switch
dmx G (shield)	G	23	24	G	dmx G (shield)
dmx in/out	-	25	26	-	dmx in/out
dmx in/out	+	27	28	+	dmx in/out
24Vdc in	-	29	30	-	24Vdc out
24Vdc in	+	31	32	+	24Vdc out

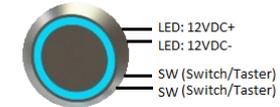


Rotary switch 3 (0 - 9)

Rotary switch 2 (0 - 9)

Rotary switch 1 (0 - 9)

1 dmX termistor
2 not use (optional wifi)



Wire colour for each Piezo type different
Couleur de fil différente pour chaque type de piézo
Color de cable diferente para cada tipo piezoeléctrico
Aderfarbe per Piezo Typ unterschiedlich
Aderkleur per Piezo type verschillend

Rotary Switch Settings

CONFIG	1x Piezo	2x Piezo	3x Piezo Basic	3x Piezo Training
Rotary 3	8	1	1	1
Rotary 2	1	0	0	3
Rotary 1	5	6	9	9

Slave mode: External master (DMX Advanced Controller) control*

Rotary = dmX address 1-511
PPM output 1-2 to EVStream motor control

Piezo 1 + 3 is pause
Piezo 1 = speed +
Piezo 3 = speed -
Piezo 2 = on/off function

When no start/stop switch in pool, place a bridge over sw/sw (piezo 2)

When using an EVA DMX controller as master, use DMX start address 5

*Combining a DMX Advanced Controller with Piezo is only possible with a Piezo Ready Motor Control Unit (Art.no: EVA-SP-xxx-MCU-PIEZO)

Master mode: piezo control

DMX in/out goes to EVStream/UWL (underwater lighting) DMX input

Piezo/switch 4 = stop (reset) outside pool

Rotary (dmX) address 518 = 1 x piezo (1) control in 10% steps + (0, 30, 40, 50, 60, 70, 80, 90, 100)

When no start/stop switch in pool, place a bridge over sw/sw (piezo 2)

Rotary (dmX) address 601 = 2 x piezo (1+3) piezo 1 = speed +, piezo 3 = speed -, piezo 1+3 = on/standby. In standby piezo 3 = off

Rotary (dmX) address 901 = 3 x piezo (1+2+3) piezo 1 = speed +, piezo 2 = on/standby, piezo 3 = speed -. In standby piezo 3 = off

Rotary (dmX) address 931 = 3 x piezo (1+2+3). Step 1 = select user (piezo 1 or 2 or 3). Step 2 = select training (piezo 1 or 2 or 3 --> make selection within 5 seconds otherwise step 2 is skipped, automatic proceeding to step 3)

* In training mode (step 2) piezo 1 = speed +, piezo 2 = standby, piezo 3 = speed -. In standby piezo 3 = off

* In step 3 (step 2 skipped) piezo 1 = speed +, piezo 2 = standby, piezo 3 = speed -. In standby piezo 3 = off

When using rotary (dmX) address 901/931, connect underwater lighting (UWL) to DMX in/out. Control UWL, see below:

UWL control: piezo 1+3 = switch colour, piezo 1+2 = light intensity -, piezo 2+3 = light intensity +

DMX start address (UWL and EVStream) in master mode: UWL= dmX channel 1, EVStream= dmX channel 5

EVA Piezo3 | Wiring diagram for Piezo3 (7-wired cable)

to SP-PIEZO-ADV-PCB / SP-PIEZO-PSU-ADV (EVAstream Piezo PCB)

Article: SP-PIEZO3-W, SP-PIEZO3-G or SP-PIEZO3-A



Connect wires (7-wired cable) according to schematics below, use wire colours as indicated:

	Fan 24Vdc	-	1	2	+	Fan 24Vdc			
	ppm output 2	-	3	4	+	ppm output 2			
	ppm output 1	-	5	6	+	ppm output 1			
	piezo 4 LED 12Vdc	-	7	8	+	piezo 4 LED 12Vdc			
	piezo 4 switch	sw	9	10	sw	piezo 4 switch			
Piezo input EVA Piezo3	11 black	piezo 3 LED 12Vdc	-	11	12	+	piezo 3 LED 12Vdc	12 red	Piezo input EVA Piezo3
	13 not used	piezo 3 switch	sw	13	14	sw	piezo 3 switch	14 green	
	15 not used	piezo 2 LED 12Vdc	-	15	16	+	piezo 2 LED 12Vdc	16 blue	
	17 not used	piezo 2 switch	sw	17	18	sw	piezo 2 switch	18 white	
	19 not used	piezo 1 LED 12Vdc	-	19	20	+	piezo 1 LED 12Vdc	20 yellow	
21 not used	piezo 1 switch	sw	21	22	sw	piezo 1 switch	22 purple		
DMX output to RGBW RX Smart	dmx G (shield)	G	23	24	G	dmx G (shield)	DMX input for external		
	dmx in/out	-	25	26	-	dmx in/out	Master control		
	dmx in/out	+	27	28	+	dmx in/out			
	24Vdc in	-	29	30	-	24Vdc out			
	24Vdc in	+	31	32	+	24Vdc out			

EVA PiezoSQ3 / PiezoSQ4 | Wiring Diagram for PiezoSQ3/SQ4

to SP-PIEZO-ADV-PCB / SP-PIEZO-PSU-ADV (EVAstream Piezo PCB)

Article: EVA-PIEZOSQ4-AMB-X OR EVA-PIEZOSQ3-AMB-X

Please note! Always check the Piezo wiring (conductor) colors and the 12Vdc polarity before installation



L: 152 mm



L: 81 mm

fan 24Vdc	-	1	2	+	fan 24Vdc				
ppm output 2	-	3	4	+	ppm output 2				
ppm output 1	-	5	6	+	ppm output 1				
piezo 4	black 7	piezo 4 LED 12Vdc	-	7	8	+	piezo 4 LED 12Vdc	blue 8	piezo 4
	red 9	piezo 4 switch	sw	9	10	sw	piezo 4 switch	red 10	
piezo 3	black 11	piezo 3 LED 12Vdc	-	11	12	+	piezo 3 LED 12Vdc	blue 12	piezo 3
	red 13	piezo 3 switch	sw	13	14	sw	piezo 3 switch	red 14	
piezo 2	black 15	piezo 2 LED 12Vdc	-	15	16	+	piezo 2 LED 12Vdc	blue 16	piezo 2
	red 17	piezo 2 switch	sw	17	18	sw	piezo 2 switch	red 18	
piezo 1	black 19	piezo 1 LED 12Vdc	-	19	20	+	piezo 1 LED 12Vdc	blue 20	piezo 1
	red 21	piezo 1 switch	sw	21	22	sw	piezo 1 switch	red 22	
dmx G (shield)	G			23	24	G	dmx G (shield)		
dmx in/out	-			25	26	-	dmx in/out		
dmx in/out	+			27	28	+	dmx in/out		
24Vdc in	-			29	30	-	24Vdc out		
24Vdc in	+			31	32	+	24Vdc out		

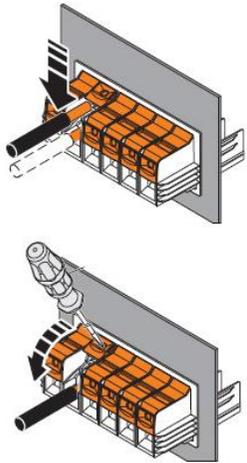
For cable extension, use data cable with minimum conductor size 0,25mm² and with a maximum cable length of 30 meters. Recommended cable type LiYY 16 x 0,25mm² (Lapp Unitronic) or equal. It is allowed to connect EVA-PIEZOSQ4-AMB-X and SP-PIEZO3-X parallel to SP-PSU-ADV. It is also possible to combine wires 7,9,11,13,15,17,19,21 to: Piezo 4 switch sw 9. In this case, it is important to use a cable with a conductor size of 0,5mm².

Motor Control Unit | ECA Ready

PER 01-06-2022 STANDARD for EVAstream SET

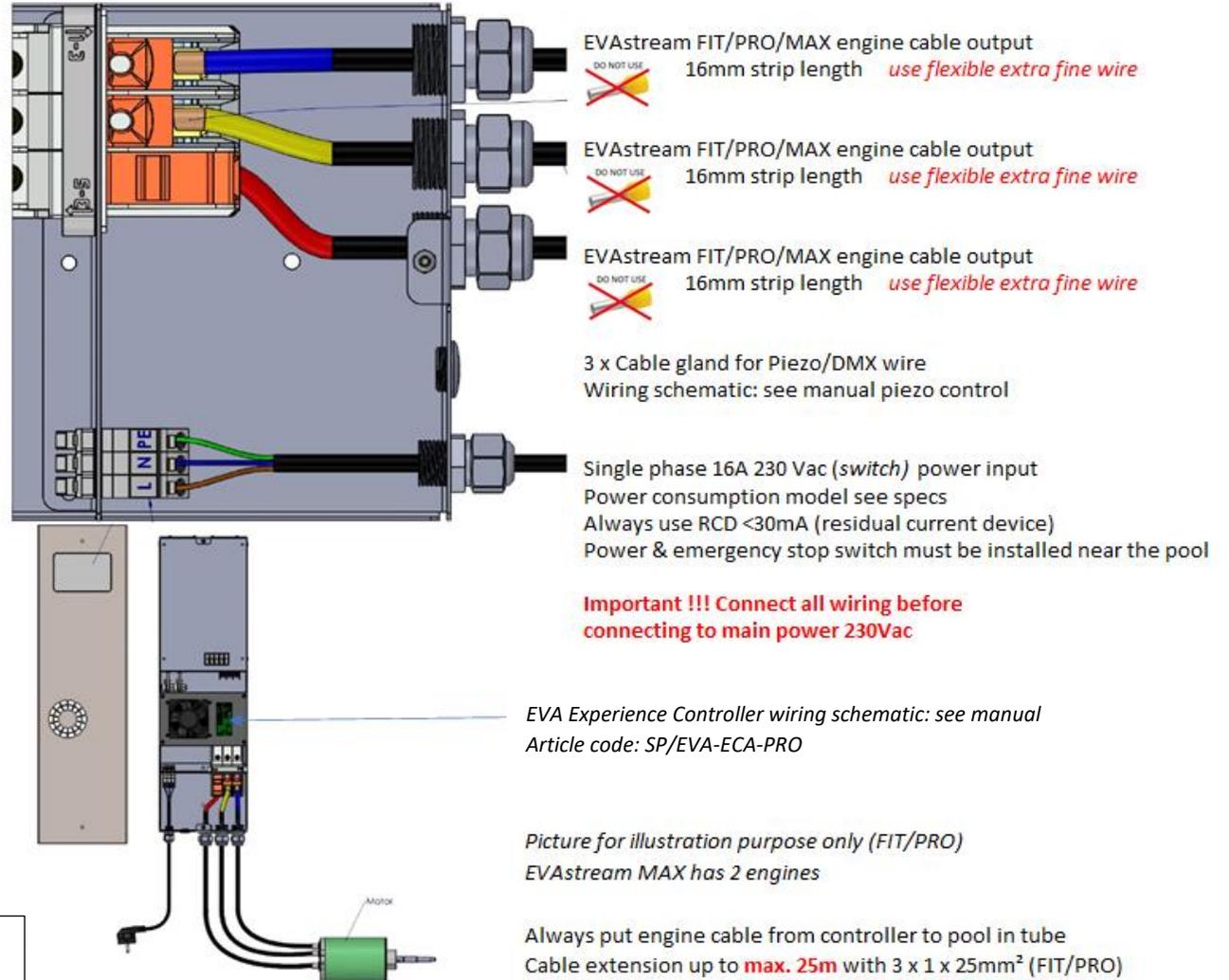
Article: EVA-SP-xxx-MCU-ECA

Important !!! Connect all wiring before connecting to main power 230Vac



PE earth (green yellow)
230Vac N (neutral)
230Vac Switched L (Life)

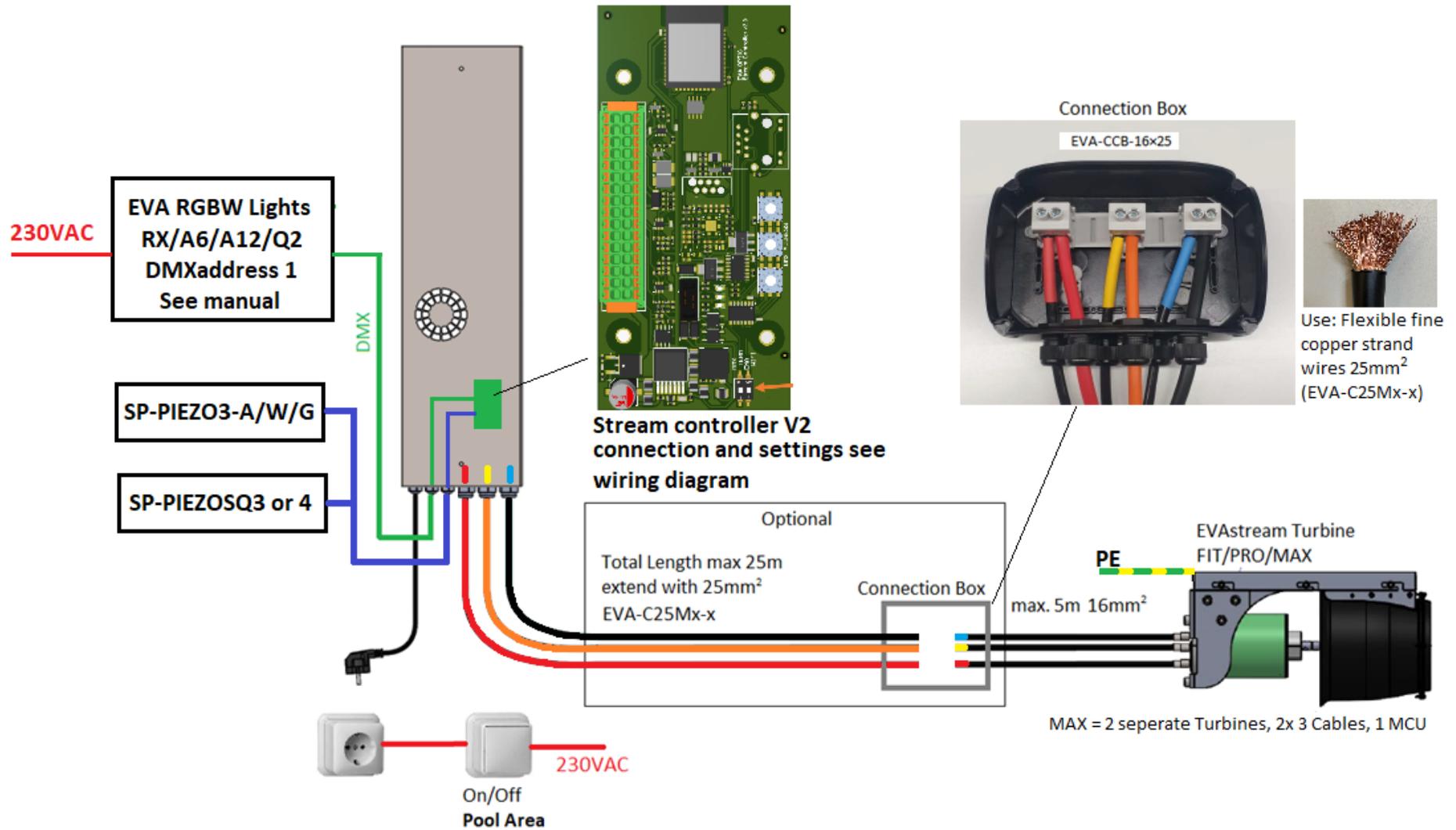
Always cut off power before servicing the engine



EVAsream FIT/PRO/MAX

ECA READY
Optional RGBW Lighting
Optional extra PIEZO

V22.1



EVA Experience Controller PCB | Settings

Article: SP-ECA-PRO / EVA-ECA-PRO
Stream controller V2

fan 24Vdc	-	1	2	+	fan 24Vdc
ppm output 2	-	3	4	+	ppm output 2
ppm output 1	-	5	6	+	ppm output 1
piezo 4 LED 12Vdc	-	7	8	+	piezo 4 LED 12Vdc
piezo 4 switch	sw	9	10	sw	piezo 4 switch
piezo 3 LED 12Vdc	-	11	12	+	piezo 3 LED 12Vdc
piezo 3 switch	sw	13	14	sw	piezo 3 switch
piezo 2 LED 12Vdc	-	15	16	+	piezo 2 LED 12Vdc
piezo 2 switch	sw	17	18	sw	piezo 2 switch
piezo 1 LED 12Vdc	-	19	20	+	piezo 1 LED 12Vdc
piezo 1 switch	sw	21	22	sw	piezo 1 switch
dmx G (shield)	G	23	24	G	dmx G (shield)
dmx in/out	-	25	26	-	dmx in/out
dmx in/out	+	27	28	+	dmx in/out
24Vdc in	-	29	30	-	24Vdc out
24Vdc in	+	31	32	+	24Vdc out

Controlling EVAstream + lighting by APP

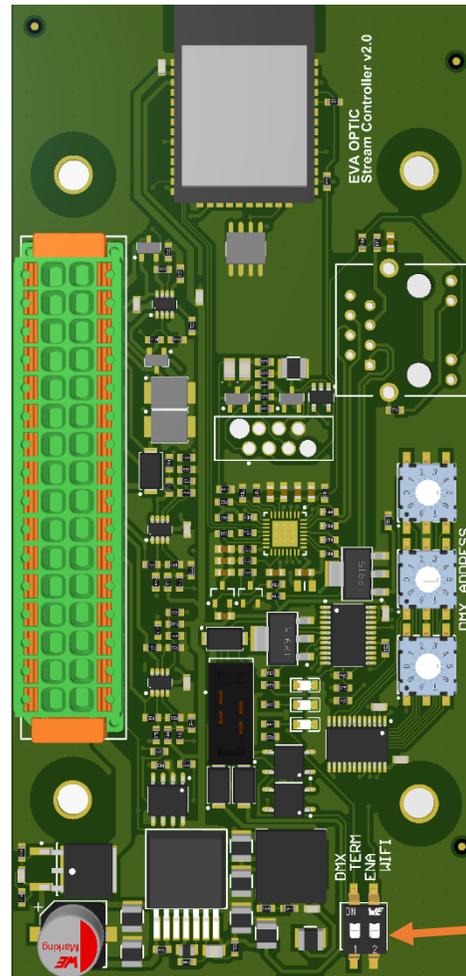
Basis configuration is control by APP + piëzo unit
Rotary switches at 000 (factory settings, mastermode)
Slow down and speed up in 5% increments
See wiring schematic Piezo3 to SP/EVA-ECA-PRO

Controlling EVAstream by piëzo without APP

Rotary switches at 701
Slow down and speed up in 10% increments
See wiring schematic Piezo3 to SP/EVA-ECA-PRO

Controlling EVA Lighting by piëzo without APP

Rotary switches at 801
See wiring schematic Piëzo3 to SP/EVA-ECA-PRO



How the lamp groups are divided:

- DMX 001 group 1 = underwater lighting (always responding to training)
- DMX 011 Group 2
- DMX 021 Group 3
- DMX 031 Group 4

Rotary switch 3 (0-9)

Rotary switch 2 (0-9)

Rotary switch 1 (0-9)

- 1 dmx termistor
- 2 wifi: turn on for installation
- Turn off immediately after installation

Slave mode: External master Control (DMX advanced controller) *

Rotary switches at 005, DMX addresses EVAstream 5 and 6
When using a DMX advanced controller as master, use DMX start address 5.
Piëzo 2 = pass / pause DMX signal (note! the turbine pauses, but the scene continues in the DMX master)
Piëzo 3 = slow down
Piëzo 1 = speed up to maximum speed of the chosen scene (f.e. scene 70% : the maximum speed in this scene is 70%).

DMX master and no piëzo / start-stop switch in the pool? Place a bridge over SW/SW Piezo2.

EVA Piezo3 | Wiring diagram for Piezo3 (7-wired cable)
to SP-ECA-PRO / EVA-ECA-PRO (Experience Controller PCB)

Article: SP-PIEZO3-A, SP-PIEZO3-G or SP-PIEZO3-W



Connect wires (7-wired cable) according to schematics below,
 use wire colours as indicated:

	Fan 24Vdc	-	1 2	+	Fan 24Vdc		
	ppm output 2	-	3 4	+	ppm output 2		
	ppm output 1	-	5 6	+	ppm output 1		
	piezo 4 LED 12Vdc	-	7 8	+	piezo 4 LED 12Vdc		
	piezo 4 switch	sw	9 10	sw	piezo 4 switch		
Piezo input EVA Piezo3	11 zwart	piezo 3 LED 12Vdc	-	11 12	+	piezo 3 LED 12Vdc	12 rood
	13 not used	piezo 3 switch	sw	13 14	sw	piezo 3 switch	14 groen
	15 not used	piezo 2 LED 12Vdc	-	15 16	+	piezo 2 LED 12Vdc	16 blauw
	17 not used	piezo 2 switch	sw	17 18	sw	piezo 2 switch	18 wit
	19 not used	piezo 1 LED 12Vdc	-	19 20	+	piezo 1 LED 12Vdc	20 geel
21 not used	piezo 1 switch	sw	21 22	sw	piezo 1 switch	22 paars	
DMX output naar RGBW RX Smart	dmx G (shield)	G	23 24	G	dmx G (shield)	DMX input voor externe Master aansturing	
	dmx in/out	-	25 26	-	dmx in/out		
	dmx in/out	+	27 28	+	dmx in/out		
	24Vdc in	-	29 30	-	24Vdc out		
	24Vdc in	+	31 32	+	24Vdc out		

Piëzo control EVAstream incl. EVA lighting (by APP)

Rotary switches at 000

2 = start / pause

3 = slowdown (in 5% increments)

1 = speed up (in 5% increments)

1+3 = child lock (operation only possible by Web interface)

Piëzo control EVAstream excl. EVA lighting (without APP)

Rotary switches at 701

2 = on / stand-by (pause)

3 = slowdown in 10% increments / in stand-by start on 30%

1 = speed up in 10% increments / in stand-by start on 100%

Piëzo control EVA lighting (without APP)

Rotary switches at 801

2 = stand-by / on / scene-memory

3 = previous scene / on

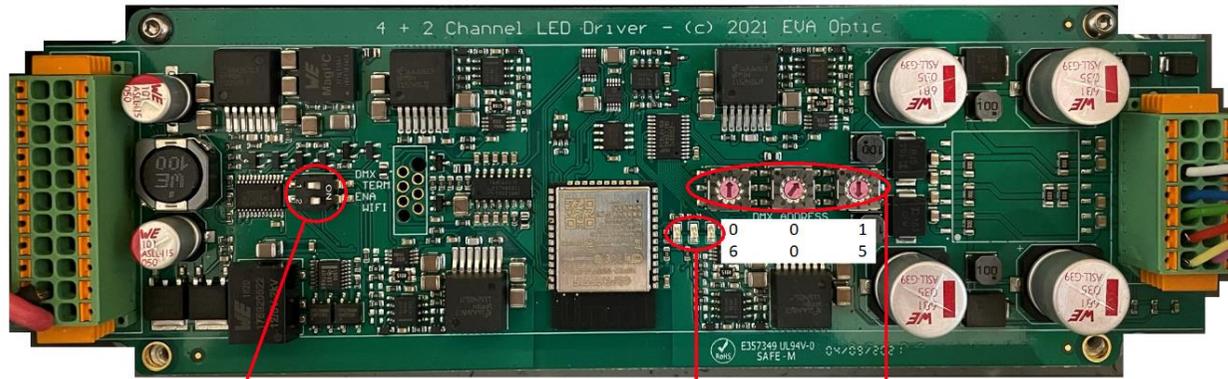
1 = next scene / on

EVA RGBW LED driver | Wiring Diagram LED driver 4+2 channel for EVA RGBW lighting

Article: SP-DR-DMX-4CH

Connect wires according to schematics below, use wire colors as indicated:

PIEZO 3 LED 12Vdc	-	1	2	+
PIEZO 3 Switch	sw	3	4	sw
PIEZO 2 LED 12Vdc	-	5	6	+
PIEZO 2 Switch	sw	7	8	sw
PIEZO 1 LED 12Vdc	-	9	10	+
PIEZO 1 Switch	sw	11	12	sw
DMX G (shield)	G	13	14	G
DMX - in/out	-	15	16	-
DMX + in/out	+	17	18	+
24V - dc in/out	-	19	20	-
24V + dc in/out	+	21	22	+

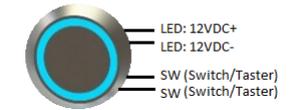


DMX TERMINATOR, STANDARD OFF, SET AT LAST PCB ON
WIFI CONNECTION, STANDARD OFF, FOR PCB SETTINGS AND SYSTEM ANALYSE ON

STATUS LED

ROTARY SWITCHES
001 - 511 DMX ADDRESS (SLAVE)
600 - 999 MASTER MODES

IMPORTANT: DO NOT CONNECT WIRES OR CHANGE ROTARY SETTINGS WHEN POWERED ON



Wire colour for each Piezo type different
Couleur de fil différente pour chaque type de piézo
Color de cable diferente para cada tipo piezoeléctrico
Aderfarbe per Piezo Typ unterschiedlich
Aderkleur per Piezo type verschillend

CH6 = 0/10VDC	+	1	2	-	
CH5 = 0/10VDC	+	3	4	-	
CH4 = WHITE	+	5	6	-	1X BLACK
CH3 = BLUE	+	7	8	-	
CH2 = GREEN	+	9	10	-	
CH1 = RED	+	11	12	-	
NTC	+	13	14	-	

CHANNEL 1 - 4 = LIGHTOUTPUT EVA RGBW
CHANNEL 5 - 6 = 0-10Vdc DIMMING OUTPUT
NTC INPUT = EVA ATS (THERMAL PROTECTION OF LED)

Master Mode:

First print (master) = Rotary address 605:

- Piezo 1: light scene NEXT
- Piezo 2: light scene PREVIOUS
- Piezo 3: ON/OFF

Use Piézo 1 SW 11/12 for controlling by pulse, remote control, Piézo or domotica.

Sequence scenes (with scene memory):

White/Sky Blue/Blue/Mediterranean/Green/Red/ Purple/Colour Show Fade/Colour Show Jump

Next prints (slaves) = Rotary address 001 – 511 (slave mode)

Alternative Master mode

600: no scene memory

615: sequence scenes (with scene memory): White/Sky Blue/Blue/Mediterranean/Green/Red/ Purple/Colour Show Fade/Colour Show Jump/OFF

External DMX512 control

All PCB's DMX address 001 to 511
Depending on the DMX programming
Mostly address 001 at all PCB.

Examples, in combination with:

- EC2 DMX controller: 001
- EVA-AA-77 AND EVA-AA-77SL with standard program: 001
- EVAstream: 001

Status leds

Orange: DMX is connected or PCB set as Master

Green flashing with high sequence: Starting software on PCB

Green flashing with sequence of 1 sec: PCB is ready.

Red: An Issue has occurred. (please check the webapp (via WIFI) for the event details)

If there occur problems with the operation of the PCB, you can read the PCB via WIFI. See manual WIFI Connection.

ATTENTION: The automatic start-up procedure takes approx. 30 seconds. During this procedure the lights will first light up blue (softly). After that they will flash white. Start-up procedure is ready now.

EVA Piezo3 | Wiring Diagram Piezo3
to SP-DR-DMX-4CH (EVA RGBW LED driver)
Article: SP-PIEZO3-W, SP-PIEZO3-G or SP-PIEZO3-A



Connect wires (7-wired cable) according to schematics below, use wire colors as indicated:

7 Black	Piezo 3 LED 12Vdc	-	1	2	+	piezo 3 LED 12Vdc	2 blue	piezo 3
	Piezo 3 switch	SW	3	4	SW	piezo 3 switch	4 white	
	Piezo 2 LED 12 Vdc	-	5	6	+	piezo 2 LED 12Vdc	6 red	piezo 2
	Piezo 2 switch	SW	7	8	SW	piezo 2 switch	8 green	
	Piezo 1 LED 12 Vdc	-	9	10	+	piezo 1 LED 12Vdc	10 yellow	piezo 1
	Piezo 1 switch	SW	11	12	SW	piezo 1 switch	12 purple	
	dmx G (shield)	G	13	14	G	dmx G (shield)		
	dmx in/out	-	15	16	-	dmx in/out		
	dmx in/out	+	17	18	+	dmx in/out		
	24Vdc in/out	-	19	20	-			
	24Vdc in/out	+	21	22	+			

Set the 4-channel EVA LED Driver (SP-DR-DMX-4CH), to which the Piezo Controller is being connected, to Master mode (rotary address 600). Connect the other lights via DMX in/out. Set these to Slave mode (rotary address 001).

Operation of the Piezo switches is then as follows:

- Piezo 1: light scene NEXT
- Piezo 2: light scene PREVIOUS
- Piezo 3: ON/OFF

Sequence scenes: White/Sky Blue/Blue/Mediterranean Blue/Green/Red/Purple/Colour Show Fade/Colour Show Jump

EVA Piezo3 | Wiring Diagram Piezo3

to SP-DR-DMX-4CH (EVA RGBW LED driver)

Article: EVA-PIEZOSQ3-AMB-X



Please note! Always check the Piezo wiring (conductor) colors and the 12Vdc polarity before installation

Connect all 6 wires to Piezo 3 switch (sw 3)

piezo 3	3 black	Piezo 3 LED 12Vdc	-	1	2	+	piezo 3 LED 12Vd	2 blue	piezo 3
	3 red	Piezo 3 switch	SW	3	4	SW	piezo 3 switch	4 red	
piezo 2	2 black	Piezo 2 LED 12 Vdc	-	5	6	+	piezo 2 LED 12Vd	6 blue	piezo 2
	2 red	Piezo 2 switch	SW	7	8	SW	piezo 2 switch	8 red	
piezo 1	1 black	Piezo 1 LED 12 Vdc	-	9	10	+	piezo 1 LED 12Vd	10 blue	piezo 1
	1 red	Piezo 1 switch	SW	11	12	SW	piezo 1 switch	12 red	
		dmx G (shield)	G	13	14	G	dmx G (shield)		
		dmx in/out	-	15	16	-	dmx in/out		
		dmx in/out	+	17	18	+	dmx in/out		
		24Vdc in/out	-	19	20	-			
		24Vdc in/out	+	21	22	+			

Set the 4-channel EVA LED Driver (SP-DR-DMX-4CH), to which the Piezo Controller is being connected, to Master mode (rotary address 600). Connect the other lights via DMX in/out. Set these to Slave mode (rotary address 001).

Operation of the Piezo switches is then as follows:

Piezo 1: light scene NEXT

Piezo 2: light scene PREVIOUS

Piezo 3: ON/OFF

Sequence scenes: White/Sky Blue/Blue/Mediterranean Blue/Green/Red/Purple/Colour Show Fade/Colour Show Jump

For cable extension, use data cable with minimum conductor size 7x0,5mm² and with a maximum cable length of 30 meters. Recommended cable type LiYY 7x 0,5mm² (Lapp Unitronic) or equal.