

Stage Cyclo

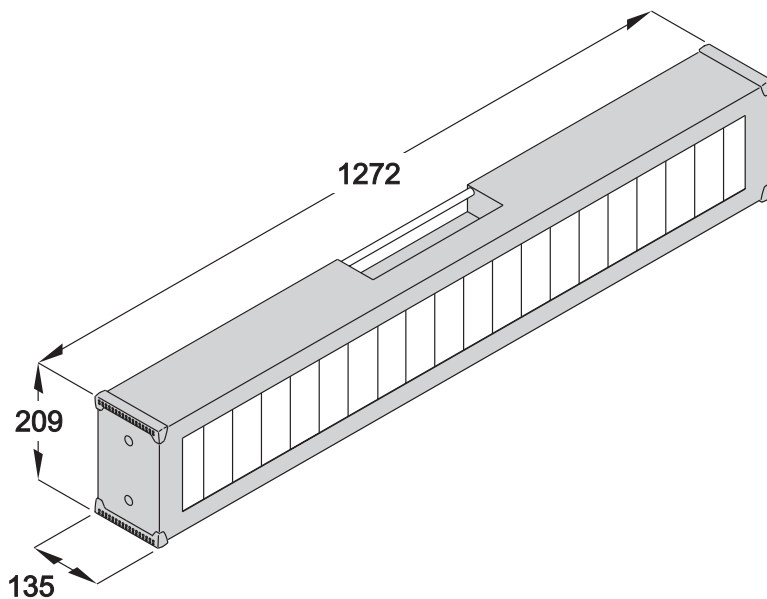
User manual



Martin

Dimensions

Measurements are in millimeters



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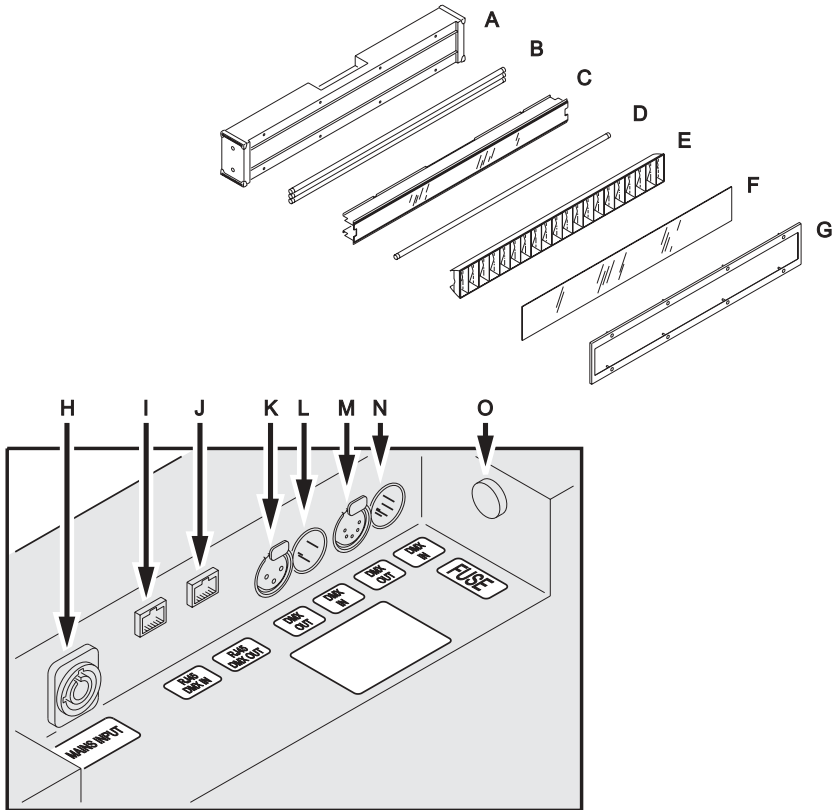
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Product overview



Main assembly

- A Housing
- B Colored tubes
- C Diffuser
- D White tube
- E Reflector
- F Clear plastic cover
- G Front frame

Connections panel

- H AC power input
- I DMX in (RJ-45)
- J DMX out (RJ-45)
- K DMX out (3-pin XLR)
- L DMX in (3-pin XLR)
- M DMX out (5-pin XLR)
- N DMX in (5-pin XLR)
- O Main fuseholder

Introduction

Thank you for selecting the Martin Stage Cyclo. The Stage Cyclo is designed for wash illumination of sets, features, and artists. A patented optical system ensures effective color mixing, allowing the fixture to be positioned close to illuminated surfaces without color hot-spots.

The Stage Cyclo can be controlled via DMX or programmed with a stand-alone light show (which it can run alone or in a synchronized group). It has a wide range of mounting options, including stacking to form dynamic color-changing light walls. Four dimmable T5 high-output fluorescent tubes combine high efficiency, bright color and long lamp life.

The Stage Cyclo features:

- Full 0-100% intensity control of red, green, blue and white tubes to give RGB color mixing and fine-tuned color temperature
- High output, long life T5 fluorescent tubes
- Tough steel case with rubber corner protectors and carrying handle
- XLR 3-pin, XLR 5-pin and RJ-45 DMX connectors.
- One-tenth peak angle 107° x 121°
- Optional accessories include an adjustable bracket that allows flexible rigging options.

Important! Read this manual before attempting to install this product.

Updated user manuals for this and all other Martin products are available from the Support area of the Martin website at <http://www.martin.com>.

Safety information

Warning! This product is for professional use only. It is not for household use.

This product presents risks of lethal or severe injury due to fire and heat, electric shock and falls. Read this manual before powering or installing this fixture, follow the safety precautions listed below, and observe all warnings in this manual and on the fixture. If you have any questions about how to operate this fixture safely, contact your Martin dealer or call the Martin 24-hour service hotline at +45 70 200 201.

Protection from electric shock

- Disconnect the fixture from AC power before removing or installing a tube or any component, and when not in use.
- Always ground (earth) the fixture electrically.
- Do not operate the fixture if any cover or component is damaged, deformed or defective.
- Use only a source of AC power that complies with local building and electrical codes and has both overload and ground fault (earth fault) protection.
- Use only a power cable approved for extra hard usage. Do not operate the fixture if the power cable or power connections are damaged, deformed or defective.
- Do not expose the fixture to rain or moisture.
- Refer all service not described in this manual to a Martin service technician.

Protection from burns and fire

- Provide a minimum clearance of 25 mm (1 inch) around the fixture.
- Never place filters or other materials over the clear polycarbonate cover.
- The exterior of the fixture can become hot to the touch. Allow the fixture to cool for at least 5 minutes before handling.
- Do not modify the fixture or install other than genuine Martin parts.
- Do not operate the fixture if the ambient temperature (T_a) exceeds 40°C (104°F).

Protection from injury due to falls

- Ensure that all fasteners and components are secure and use an approved means of secondary attachment such as a safety cable.
- Ensure that all supporting structures, surfaces and fasteners can bear ten times the weight of all fixtures installed.
- Block access below the work area whenever installing, servicing or removing the fixture.
- Secure stacked fixtures with safety attachments so that they cannot fall or be pushed over.

Installation

This section describes in general terms how to install the fixture, connect it to AC power and connect to a DMX controller. These procedures must be performed by qualified professionals.

Mounting

The Stage Cyclo features a range of mounting and stacking options when used in combination with Martin Omega clamps.

Warning! *Check that all fasteners, structures and surfaces used to mount the Stage Cyclo can bear at least ten times the total weight of all devices installed. A maximum of 8 Stage Cyclos may be hung vertically using the Stage Cyclo mounting bracket and Martin omega clamps.*

Work from a stable platform and block access below the work area when installing or servicing fixtures above head-height.

Rigging options

The clamp attachment points on the top, ends and back of the fixture provide a range of rigging options.

An adjustable mounting bracket is available as an optional accessory (P/N 91611206).

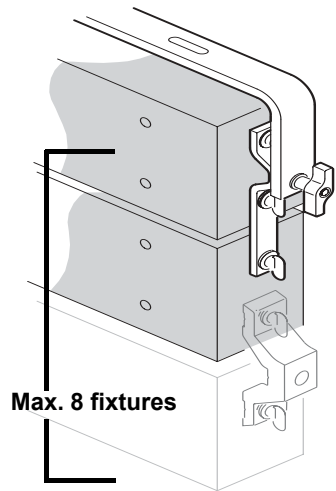


Figure 1: Mounting bracket

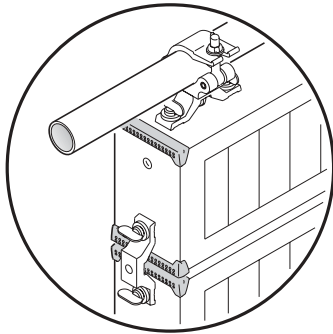


Figure 2: Rigging with a Martin half-coupler

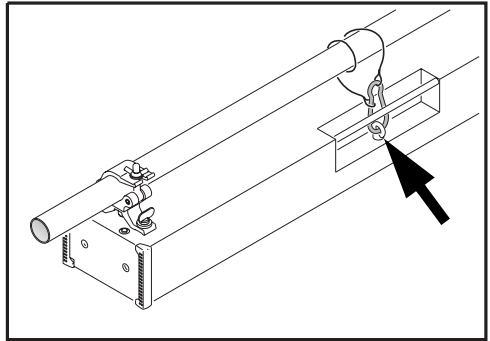


Figure 2: Safety wire attachment

Ensure that mounting hardware can bear at least ten times the total weight of the fixtures installed. Using the mounting bracket or Martin half-coupler (P/N 90602005) and Martin omega clamps (P/N 91602001), a maximum of eight fixtures may be flown in one connected stack.

Anchor fixtures securely to the supporting structure with safety cables that can bear at least 10 times the weight of all suspended fixtures. Attach safety cables to every fixture using the eyebolts on the fixtures' connections panels (see Figure 2). Do not use mounting brackets or clamps as attachment points, as this will leave fixtures unsecured.

Stacking

The quarter-turn clamping points allow multiple Stage Cyclos to be clamped together with omega clamps to form light walls.

Ensure that stacked fixtures are secured with a safety attachment so that they cannot fall over.

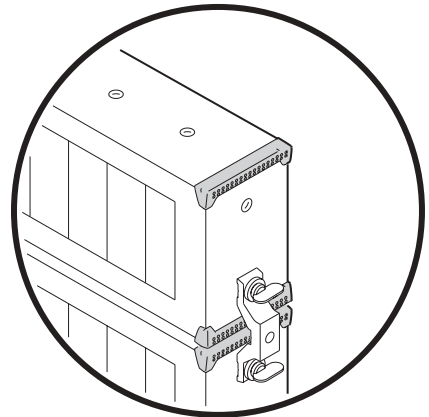


Figure 3: Stacking with omega clamps

Important! Make sure that all quarter-turn fasteners are turned fully clockwise until they lock.

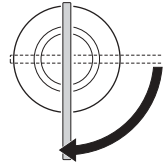


Figure 4: Quarter-turn fasteners

Placing on a surface

The Stage Cyclo can be placed flat or at an angle on a level surface and used as an upright. The adjustable support rods allow the fixture to be placed at various angles.

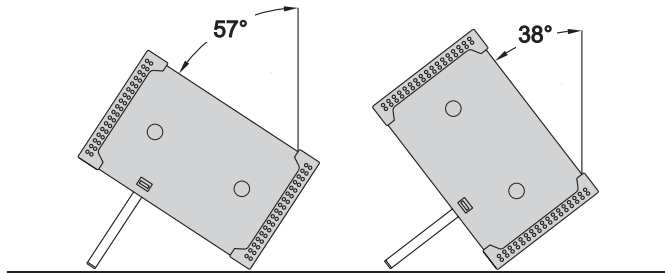


Figure 5: Placing on a level surface

Release the support rods by pushing the clips on the ends of the housing.

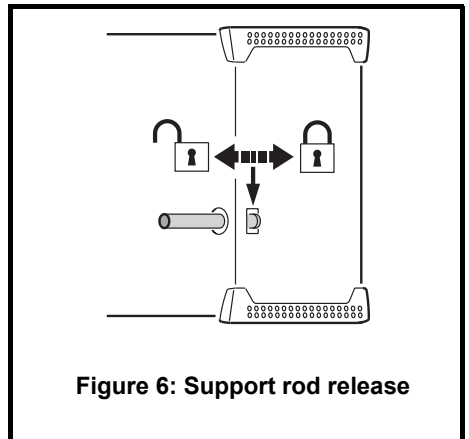


Figure 6: Support rod release

AC power

It is the installer's responsibility to ensure that all local regulations and legal requirements are observed when installing and powering the Stage Cyclo.

The Stage Cyclo is available in two models, one for 100-130 V, 60 Hz AC power only, and one for 208-250 V, 50/60 Hz AC power only. Full power compatibility and consumption data are given in the Specifications section on page 29.

Many fixed installations use common neutral conductors in branch circuit distribution boxes. To avoid unintentional tripping of the RCD (ground fault circuit breaker), ensure that the Stage Cyclo's neutral conductor is connected to AC power via the same RCD as the live conductor.

Important! Stage Cyclos contain electronic ballasts that “leak” a total current of between 0.8mA and 4mA to ground (earth). Make sure that fixtures are correctly connected to ground (earthed) so that this “leakage” current can be absorbed.

Because of the “leakage” current, we recommend connecting a maximum of seven Stage Cyclo fixtures per circuit where each circuit is protected by a 30mA RCD. This should avoid unintentional tripping of RCDs. Bear in mind that some RCDs rated at 30mA may trip when leakage to ground is as low as 20mA.

Depending on the type of installation, electrical regulations in some countries may permit the use of RCDs with a trip current rating higher than 30mA. When considering this option, the installer must ensure that all local safety, building and electrical regulations are respected.

Connecting to mains power

Warning! *Check that your local AC power voltage matches the voltage specified on the serial number label before applying power.*

The Stage Cyclo is supplied with a Neutrik PowerCon® NAC3FCA power cable connector that must be installed on a power cable approved for extra hard usage. The cable connector accepts power cable from 5 mm (0.20 in.) to 11 mm (0.43 in.) diameter when fitted with a white chuck, or from 9.5 mm (0.38 in.) to 15 mm (0.59 in.) diameter when fitted with a black chuck.

Some common color-coding systems for AC power wiring are given below:


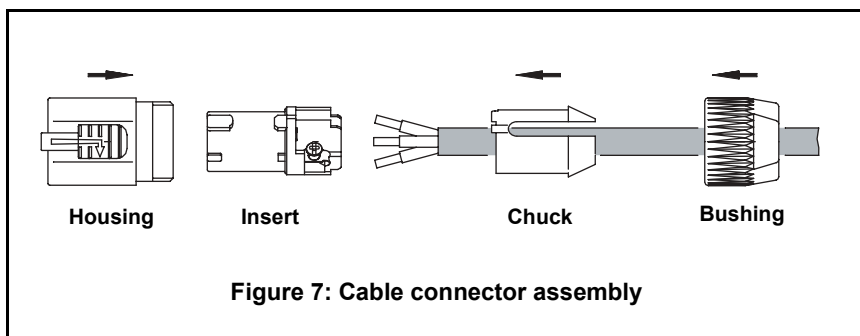
Wire (EU)	Wire (US)	Pin	Marking
brown	black	live	L
blue	white	neutral	N
yellow/green	green	ground	

Table 1: Wiring codes



To install the connector:

1. Assemble the bushing and chuck on your power cable as shown in Figure 7.

2. Prepare the power cable and use a screwdriver to clamp the wires in the appropriate terminals in the insert as shown in Figure 8.

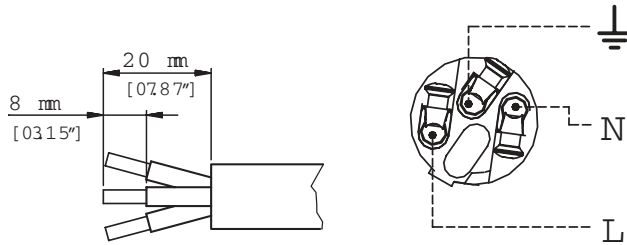


Figure 8: Cable connector wiring

3. Slide the insert and chuck into the housing, making sure that the raised tabs engage in the keyways inside the housing..
4. Use an open-ended wrench (spanner) to fasten the bushing onto the housing (max. torque: 2.5 Nm /1.8 ft-lbs).

To plug the power cable in, line up the raised tab on the cable connector with the keyway in the chassis connector, push the cable connector in and twist clockwise to lock.

To remove the cable connector, pull back the latch to release the lock, twist the connector counterclockwise and pull out.

Additional connectors can be obtained from Martin dealers (P/N 05342804) and Neutrik® stockists

Connecting to a data link

Important! Never connect more than 1 data input and 1 data output.

Fixtures on a serial data link must be daisy-chained in one single line, maximum 500 meters (1640 ft.) long, with maximum 32 fixtures. To exceed 32 fixtures or 500 meters, or to add branches, use an optically isolated splitter-amplifier such as the Martin RS-485 Opto-Splitter (P/N 90758060).

A reliable data connection requires suitable cable. Standard microphone cable is unsuitable. For touring applications, use DMX cable designed for RS-485 devices. For fixed installations, Category 5 network cable is an acceptable alternative. Recommended minimum wire sizes are 24 AWG (0.25mm²) for runs up to 300 meters (1000 ft) and 22 AWG (0.32 mm²) for

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longer cable runs. Your Martin Architectural dealer can advise and supply suitable cable.

The Stage Cyclo has RJ-45 as well as 3-pin and 5-pin XLR sockets for DMX input and output. To avoid damage to the fixture, use only one input and one output at the same time.

- XLR connectors are wired pin 1 to shield, pin 2 to cold (-), and pin 3 to hot (+). There is no connection to pins 4 and 5 on 5-pin XLR connectors.
- RJ-45 connectors are wired pins 7 & 8 to shield, pin 2 to signal - (cold) and pin 1 to signal + (hot).

Some older fixtures have reversed polarity XLR sockets (pin 2 hot and pin 3 cold). Socket polarity is normally labelled on products and specified in user manuals. Use a phase-reversing cable between the Stage Cyclo and any device with reversed XLR connector polarity.

To connect the data link:

1. Connect the DMX data output from the controller to one of the DMX input sockets of the nearest fixture.
2. Connect one DMX output of this fixture to the DMX input of the next fixture, and continue connecting output to input.
3. Terminate the link by inserting a male XLR DMX termination plug (P/N 91613017) or RJ-45 DMX termination plug (P/N 91613028) in the data output of the last fixture.

Burning in fluorescent tubes

For optimum tube life and performance, burn in new fluorescent tubes for 100 hours at full power.

Ambient temperature

Do not operate the Stage Cyclo if ambient temperature (T_a) exceeds 40°C (104°F).

The Stage Cyclo can be started at full intensity from -20°C (-4°F), but needs to be at operating temperature for best dimming characteristics. When operating at extremely low ambient temperatures, start the fixture at full power and allow it to warm up for approximately 10 minutes before dimming. If dimming characteristics are impaired when running tubes at low intensity in extreme cold conditions, the fixture may need to be warmed up by periodically running tubes at higher intensity.

Stand-alone operation

In stand-alone operation, the Stage Cyclo can be used without a DMX controller. Static single colors or two-color mixes can be displayed, or fixtures can be programmed to change colors in cycles. Changes can be programmed at 1, 5, 10 or 30 second intervals.

Two stand-alone operation modes are available:

- In **single stand-alone operation**, fixtures run independently of each other. No data link is required.
- In **master/slave stand-alone operation**, fixtures must be linked. Synchronized action in all fixtures is triggered by one “master” fixture.

Programming single and master/slave stand-alone operation involves setting the pins on the fixture’s DIP switch. The DIP switch is protected behind a sliding cover on the back of the fixture’s housing. To access the switch, pull the knob in the connections panel recess (see illustration) and slide open the cover.

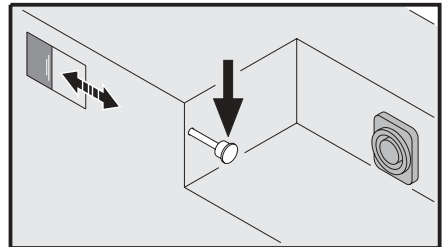


Figure 9: Dip switch access

An overview of the DIP switch settings is provided on the next page. A quick reference table covering DIP switch functions is also provided on the back cover of this manual.

DIP-switch settings in stand-alone mode

Pin	Function															
1	White active															
2	Red active															
3	Green active															
4	Blue active															
5 & 6	Program speed															
	<table border="1"><thead><tr><th>Pin 6</th><th>Pin 5</th><th>Speed</th></tr></thead><tbody><tr><td>OFF</td><td>OFF</td><td>1 sec. steps (fastest setting)</td></tr><tr><td>OFF</td><td>ON</td><td>5 sec. steps</td></tr><tr><td>ON</td><td>OFF</td><td>10 sec. steps</td></tr><tr><td>ON</td><td>ON</td><td>30 sec. steps (slowest setting)</td></tr></tbody></table>	Pin 6	Pin 5	Speed	OFF	OFF	1 sec. steps (fastest setting)	OFF	ON	5 sec. steps	ON	OFF	10 sec. steps	ON	ON	30 sec. steps (slowest setting)
Pin 6	Pin 5	Speed														
OFF	OFF	1 sec. steps (fastest setting)														
OFF	ON	5 sec. steps														
ON	OFF	10 sec. steps														
ON	ON	30 sec. steps (slowest setting)														
7	OFF = Blackout fading, ON = Crossfading															
8	OFF = Run program, ON = Pause program															
9	OFF = Master, ON = Slave (Note: do not set more than one fixture as master)															
10	ON = Stand-alone mode.															

Stand-alone operation settings

Activating colors

DIP switch pins 1 to 4 each activate a color in the stand-alone program.

Setting program speed

Combinations of DIP switch pins 5 and 6 allow one of four different speeds to be set.

Fading between colors

If DIP switch 7 is set to OFF (blackout fading), colors fade to almost blackout before the next color fades in.

If DIP switch 7 is set to ON (crossfading), color fading overlaps. If two or more colors are active, one color fades in while another is fading out, giving a color mixing effect. For example, if red and blue are activated and crossfading is selected, colors will crossfade from red through purple to

blue, then back through purple to red in a continuous cycle (see example in Figure 10).

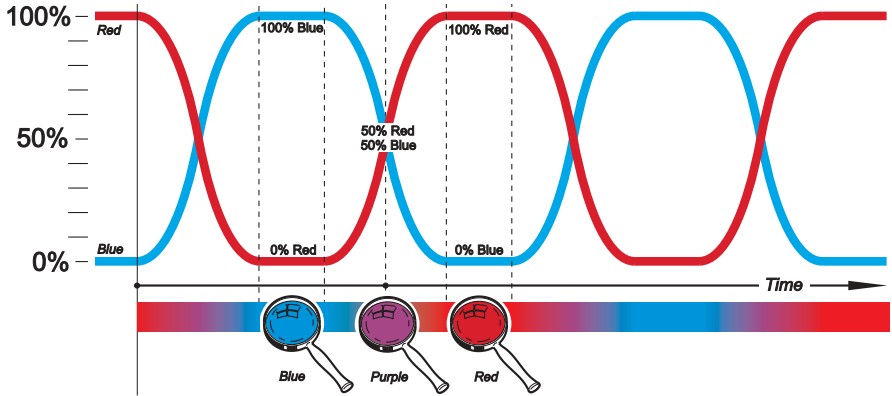


Figure 10: Crossfading between red and blue

Setting a static color display

In stand-alone operation, a static (non-changing) color display can be set by pausing the program at the point where it is showing the desired color. Either one color or a mix of two colors can be “frozen” in this way.

To set a static color display:

1. Activate the color you wish to display (if you wish to display a two-color mix, activate these two colors) on DIP switch pins 1 to 4.
2. Set the fixture as master by setting DIP switch pin 9 to OFF.
3. Set DIP switch pins 5 and 6 to ON to activate the slowest program speed.
4. Set DIP switch pin 7 to OFF to activate crossfading and DIP switch pin 8 to OFF to activate the program.
5. When the desired color or color mix appears, pause the program by moving DIP switch 8 to ON. This color will remain “frozen” until DIP switch 8 is moved to OFF.

Note that the paused color is lost when the fixture is powered off. When powering the fixture on again, DIP switch pin 8 must be moved to OFF before the program will start.

Single stand-alone operation

In single stand-alone operation, a fixture runs its own program independently of all other fixtures. To do this, the fixture must be set as a master.

Activating single stand-alone operation

To activate single stand-alone operation:

1. Set DIP switch pin 10 to ON (activates stand-alone mode).
2. Set DIP switch pin 9 to OFF (activates master mode).
3. Apply power and program the fixture using DIP switch pins 1 - 8 (see “*DIP-switch settings in stand-alone mode*” on page 15).

Master/slave stand-alone operation

Important! ***Do not set more than one fixture on a data link as master, and do not set a fixture as master on a data link with a DMX controller. Doing so may cause damage to the electronics that is not covered by the product warranty.***

In master/slave stand-alone operation, one master fixture transmits a synchronizing signal to slave fixtures over the data link each time it starts a new action. Slave fixtures start their next programmed action when they receive this signal from the master fixture. Programs can be identical on all fixtures, or fixtures can – subject to certain practical constraints – run programs that are synchronized but not identical.

Note that:

- Colors are always displayed in the order: white, red, green then blue. This means for example that if red is activated, it will always be first in the program. If red is not activated but green is activated, green will be first in the program.
- Each fixture follows the program set on its own DIP switch as described in “*DIP-switch settings in stand-alone mode*” on page 15.

More sophisticated light shows can be programmed using a DMX controller (see “*DMX-controlled operation*” on page 21).

The synchronization signal used by Stage Cyclo fixtures is identical to that used in other DMX-controllable Cyclo fixtures with the same number of tubes, allowing these products to be combined in master/slave operation on one data link.

Identical light shows

Master and slave fixtures can be set to behave identically. In this mode, the master sends synchronizing signals to the slaves, and all fixtures run the same light show. Each slave fixture follows the program set on its own DIP switch, so for identical operation, all fixtures' DIP switch settings must be the same apart from pin 9, which is set to ON for slaves and OFF for the master.

Synchronized non-identical light shows

It is also possible to synchronize changes but program slave fixtures to behave differently from the master. To use this feature effectively, you need to plan your light show using *scenes* as building blocks and set the fixtures' DIP switches accordingly.

A scene is a change from one output to another. When a fixture is in slave mode, it starts a scene when it receives a synchronization signal from the master. The time taken by the scene is determined by the speed setting of the DIP switch. A slave will not respond to new synchronization signals until its scene is complete.

When crossfading is selected, each color takes up one scene (fade in only). When blackout fading is selected, each color takes up two scenes (fade in and fade out). This means that a maximum of 8 scenes can be programmed with all 4 tubes activated and blackout fading selected.

Each time the master fixture starts at scene 1, it sends a signal to all the slave fixtures to start at scene 1. This means that if a slave fixture has:

1. Fewer scenes than the master fixture, it will run these in a cycle until the master fixture signals that the program should start from the beginning again.
2. More scenes than the master, the additional scenes will never run, because the program will reset to the first scene when the master starts its program from the beginning.

Here is an example of what will happen if a slave fixture has fewer scenes than the master fixture:

Fixture setting	Scene pattern
Master with 6 scenes	1 2 3 4 5 6 1 2 3 4 5 6 1 2 3 4 5 6 ...
Slave with 4 scenes	1 2 3 4 1 2 1 2 3 4 1 2 1 2 3 4 1 2 ...

Program examples

The following examples show how an individual fixture's program is made up of scenes.

The following symbols are used in program diagrams:

—	Tube turned fully off
/	Fade in
\	Fade out
∨	Fade to 50% and back to 100% in one scene (applies when only one color is active and crossfading is selected)

Example 1

DIP switch 7 is set to ON (crossfading) and only red is activated:

Red	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨	∨
Scene	1	1	1	1	1	1	1	1	1	1	1	1

Example 2

DIP switch 7 is set to OFF (blackout fading) and only red is activated:

Red	/	\	/	\	/	\	/	\	/	\	/	\
Scene	1	2	1	2	1	2	1	2	1	2	1	2

Example 3

DIP switch 7 is set to ON (crossfading) and red and blue are activated:

Red	/	\	/	\	/	\	/	\	/	\	/	\
Blue	\	/	\	/	\	/	\	/	\	/	\	/
Scene	1	2	1	2	1	2	1	2	1	2	1	2

Example 4

DIP switch 7 is set to OFF (blackout fading) and red and blue are activated:

Red	/	\	—	—	/	\	—	—	/	\	—	—
Blue	—	—	/	\	—	—	/	\	—	—	/	\
Scene	1	2	3	4	1	2	3	4	1	2	3	4

Example 5

To achieve a rainbow effect, activate red, green and blue and set DIP switch pin 7 to ON (crossfading).

Red	/	\	-	/	\	-	/	\	-	/	\	-
Green	-	/	\	-	/	\	-	/	\	-	/	\
Blue	\	-	/	\	-	/	\	-	/	\	-	/
Scene	1	2	3	1	2	3	1	2	3	1	2	3

Activating master/slave stand-alone operation

To activate master/slave stand-alone operation:

1. Power all fixtures off.
2. Set all fixtures as slaves and put them into stand-alone mode by setting DIP switch pins 9 and 10 to ON.
3. Decide which fixture to use as master and set this fixture's DIP switch pin 9 to OFF. Note that any fixture can be set as master, but you will obtain the most reliable data signal by either setting the first fixture on the link as master or using RJ-45 DMX termination plugs at *both* ends of the data link.
4. When power is applied, slave fixtures will go to the next scene in their program each time the master goes to its next scene. Slave fixtures will also start scene 1 of their programs each time the master starts scene 1 of its program.

DMX-controlled operation

The Stage Cyclo may be operated with any USITT DMX (1990) lighting control device. The fluorescent tubes can be dimmed from maximum output right down to zero using four channels on a DMX controller. This allows a wide range of color shades with almost infinitely variable intensity to be obtained using additive color mixing. The color temperature of white light can be fine-tuned by running the white tube at high power and adding blue or red at low power. Replacement white tubes with various color temperatures are available (see “Accessories” on page 31).

The four DMX channels are used to control the tubes as follows:

- First channel: white
- Second channel: red
- Third channel: green
- Fourth channel: blue

Setting a DMX control address

The DMX address, also known as the start channel, is the first of the four DMX control channels used. It must be set on the fixture's DIP switch before the controller can send commands to the fixture. The Stage Cyclo responds to commands sent to the DMX address and the next three channels. For example, if the DMX address is set to 100, the Stage Cyclo uses channels 100, 101, 102 and 103.

Allow enough channels when setting the DMX address. If control channels for two fixtures overlap, one of the fixtures will receive the wrong commands.

If two or more Stage Cyclos share the same DMX address, they will receive the same commands and respond identically. Individual control will be impossible.

To access the fixture's DIP switch, slide the hatch open by pulling on the pin in the connections panel recess (see Figure 11)

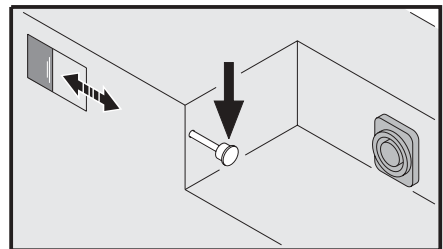
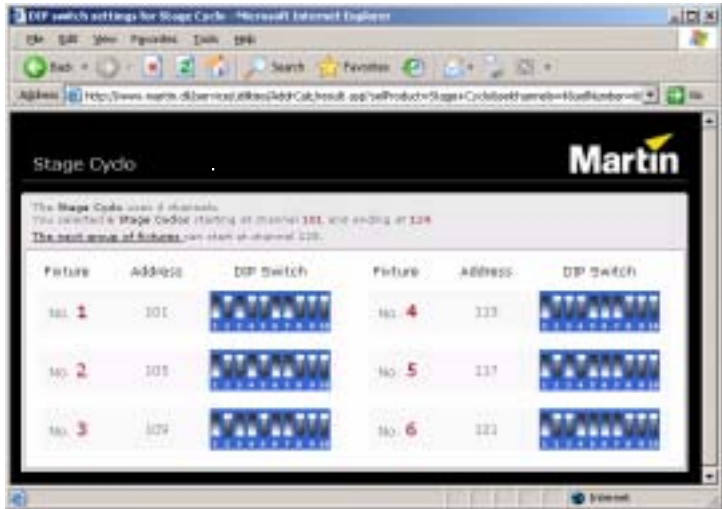


Figure 11: DIP switch access

The default factory-set control address is '1'. To reset the Stage Cyclo's DMX address:

1. Decide on a DMX address for the fixture. If you are calculating the DMX addresses for multiple fixtures, save time by using the online Martin Address Calculator at <http://www.martin.dk/service/utilities/AddrCalc/index.asp> (see illustration below).



2. You can also look up DIP-switch settings using the Martin DIP Switch Calculator, available for use and downloadable free at <http://www.martin.dk/service/dipswitchpopup.htm>
If you do not have Internet access, refer to "Table 2: DMX address DIP-switch settings" on page 23.



3. Set DIP switch pins 1 through 9 to ON (1) or OFF (0) to set the address.

To use this table, first find the DMX address in the main block in the table. Then read the settings for pins 1 - 5 to the left and read the settings for pins 6 - 9 above the address. "0" means OFF and "1" means ON.

For example, to set the DMX address to 101, you need to set DIP-switch pins 1, 3, 6 and 7 to ON, as highlighted in the table.

DIP switch pins setting 0 = OFF 1 = ON					#9	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1		
					#8	0	0	0	0	0	1	1	1	1	0	0	0	0	1	1	1	1	1	1	1
					#7	0	0	1	1	0	0	0	1	1	0	0	1	1	0	1	0	0	1	1	1
					#6	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
#1	#2	#3	#4	#5																					
0	0	0	0	0	32	64	96	128	160	192	224	256	288	320	352	384	416	448	480						
1	0	0	0	0	1	33	65	97	129	161	193	225	257	289	321	353	385	417	449	481					
0	1	0	0	0	2	34	66	98	130	162	194	226	258	290	322	354	386	418	450	482					
1	1	0	0	0	3	35	67	99	131	163	195	227	259	291	323	355	387	419	451	483					
0	0	1	0	0	4	36	68	100	132	164	196	228	260	292	324	356	388	420	452	484					
1	0	1	0	0	5	37	69	101	133	165	197	229	261	293	325	357	389	421	453	485					
0	1	1	0	0	6	38	70	102	134	166	198	230	262	294	326	358	390	422	454	486					
1	1	1	0	0	7	39	71	103	135	167	199	231	263	295	327	359	391	423	455	487					
0	0	0	1	0	8	40	72	104	136	168	200	232	264	296	328	360	392	424	456	488					
1	0	0	1	0	9	41	73	105	137	169	201	233	265	297	329	361	393	425	457	489					
0	1	0	1	0	10	42	74	106	138	170	202	234	266	298	330	362	394	426	458	490					
1	1	0	1	0	11	43	75	107	139	171	203	235	267	299	331	363	395	427	459	491					
0	0	1	1	0	12	44	76	108	140	172	204	236	268	300	332	364	396	428	460	492					
1	0	1	1	0	13	45	77	109	141	173	205	237	269	301	333	365	397	429	461	493					
0	1	1	1	0	14	46	78	110	142	174	206	238	270	302	334	366	398	430	462	494					
1	1	1	1	0	15	47	79	111	143	175	207	239	271	303	335	367	399	431	463	495					
0	0	0	0	1	16	48	80	112	144	176	208	240	272	304	336	368	400	432	464	496					
1	0	0	0	1	17	49	81	113	145	177	209	241	273	305	337	369	401	433	465	497					
0	1	0	0	1	18	50	82	114	146	178	210	242	274	306	338	370	402	434	466	498					
1	1	0	0	1	19	51	83	115	147	179	211	243	275	307	339	371	403	435	467	499					
0	0	1	0	1	20	52	84	116	148	180	212	244	276	308	340	372	404	436	468	500					
1	0	1	0	1	21	53	85	117	149	181	213	245	277	309	341	373	405	437	469	501					
0	1	1	0	1	22	54	86	118	150	182	214	246	278	310	342	374	406	438	470	502					
1	1	1	0	1	23	55	87	119	151	183	215	247	279	311	343	375	407	439	471	503					
0	0	0	1	1	24	56	88	120	152	184	216	248	280	312	344	376	408	440	472	504					
1	0	0	1	1	25	57	89	121	153	185	217	249	281	313	345	377	409	441	473	505					
0	1	0	1	1	26	58	90	122	154	186	218	250	282	314	346	378	410	442	474	506					
1	1	0	1	1	27	59	91	123	155	187	219	251	283	315	347	379	411	443	475	507					
0	0	1	1	1	28	60	92	124	156	188	220	252	284	316	348	380	412	444	476	508					
1	0	1	1	1	29	61	93	125	157	189	221	253	285	317	349	381	413	445	477	509					
0	1	1	1	1	30	62	94	126	158	190	222	254	286	318	350	382	414	446	478	510					
1	1	1	1	1	31	63	95	127	159	191	223	255	287	319	351	383	415	447	479	511					

Table 2: DMX address DIP-switch settings

Service

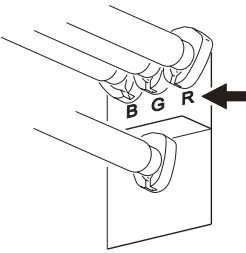
With long-life fluorescent tubes and virtually no moving parts, the Stage Cyclo is almost service-free.

Fluorescent tubes

The Osram high output T5 tubes fitted as standard meet color specifications for at least 10 000 hours, after which color intensity may gradually fall. Average tube life is 20 000 hours, but note that tube life will vary depending on operating conditions.

Tube positions

Tube positions in the Stage Cyclo are identified as shown below:

Marking in fixture	Marking on tube	Reference illustration
R	OSRAM FQ 54W/60 RED	
G	OSRAM FQ 54W/66 GREEN	
B	OSRAM FQ 54W/67 BLUE	
No marking. Tube located above diffuser.	OSRAM FQ 54W/860 Daylight	

The burning positions of fluorescent tubes affect their warm-up times, operating temperature, light output and tube life. For best results:

- Install tubes so that the manufacturer's markings are all at the same end of the fixture.
- If the fixture is mounted in a vertical position or at an angle from the horizontal, place the ends of the tubes that carry the manufacturer's markings at the lower end of the fixture (in a cold environment, i.e. where temperatures are generally around or below freezing point, locate the markings at the *upper* end of the fixture).

Changing a tube

To change a tube:

1. Disconnect the fixture from AC power and allow to cool for 5 minutes.
2. For access to the white tube, use a 3mm Allen key to remove the 8 retaining screws and remove the front frame (G) and clear plastic cover (F). Be ready to catch the reflector, as this is a loose fit in the housing, but note that a ground (earth) lead connects the reflector to the housing. Disconnect this lead and remove the reflector.

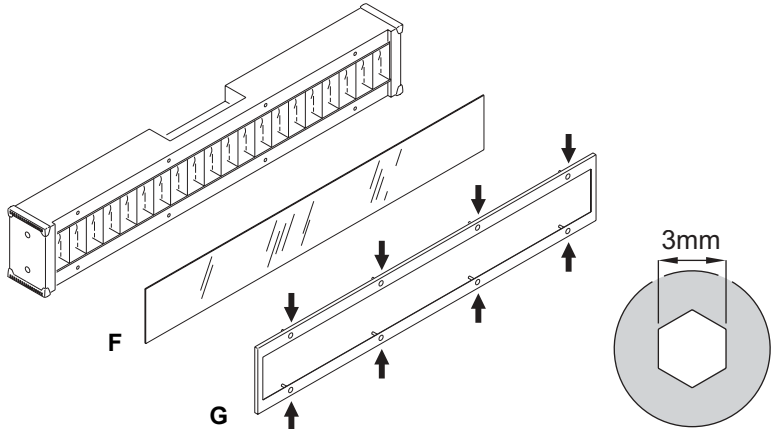


Figure 12: Access to white tube

3. To remove a tube, press on the metal caps at both ends of the tube and rotate the tube 1/4 turn in whichever direction is easiest. Then slide the tube's terminal pins out of their sockets. Support the tube at both ends as it is released.

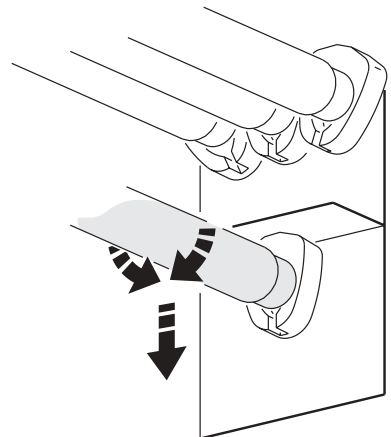


Figure 13: Tube removal

4. For access to the colored tubes, remove the eight Pozidriv PZ2 screws and remove the diffuser.

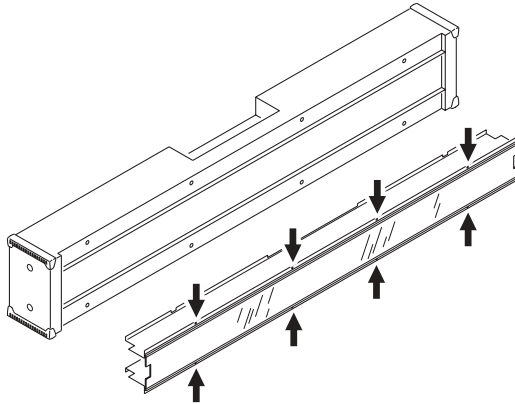


Figure 14: Access to colored tubes

5. When installing new tubes, line them up so that the manufacturer's markings on all tubes are at the same end of the fixture. Slide the tube's terminal pins fully into their sockets and rotate the tube 1/4 turn to engage the pins. Check that the tube is held securely in the sockets.
6. Replace all components – remembering to attach the earth strap to the reflector – before reapplying power.

Main fuse

The main fuseholder is located in the connections panel recess (see “*Product overview*” on page 4). Using a flat-head screwdriver, turn the fuseholder cover approximately 1/8 turn to release the cover and main fuse.

Isolate the fixture from power and make sure power cannot be reapplied accidentally before changing the fuse.

Never replace a fuse with one of a different type or rating. See “*Power*” on page 30 for main fuse details.

Cleaning

Turn off power to the fixture before cleaning, and use a damp cloth to wipe clean.

Troubleshooting

Problem	Probable cause(s)	Remedy
No response from fixture when power is applied.	No power to fixture.	Check power connections.
	Ground fault protection circuit breaker (RCD) has tripped.	Reset RCD. If problem persists, have an electrician replace the RCD or reduce the number of fixtures powered via one RCD.
Fixture does not respond correctly to DMX control.	Controller not connected.	Check DMX data link. Inspect connections and test cables. Repair or replace as necessary.
	Incorrect DMX addressing.	Check address setting on fixture and controller.
	Data link not terminated.	Insert DMX termination plug in unused socket of last fixture on data link.
	Fixture on link set as master.	Check that all fixtures are set as slaves (DIP switch pin 9 ON).
	Defective fixture.	Bypass fixtures one at a time until normal operation is regained.
Fixtures do not behave correctly in master/slave mode	Two fixtures operating as masters.	Check that only one fixture is set as master.
	Defective fixture.	Bypass fixtures one at a time until normal operation is regained.
Poor quality light output and/or color rendering.	Tube or tubes not burnt in.	Run fixture for at least 100 hours to burn in tubes.
	Tube defective.	Disconnect fixture and replace tube.

DMX protocol

Start code = 0

Channel	Value	Percent	Function
1	0-2 3-252 253-255	0 1 - 99 100	White intensity Tube off Intensity 1→100% Intensity 100%
2	0-2 3-252 253-255	0 1 - 99 100	Red intensity Tube off Intensity 1→100% Intensity 100%
3	0-2 3-252 253-255	0 1 - 99 100	Green intensity Tube off Intensity 1→100% Intensity 100%
4	0-2 3-252 253-255	0 1 - 99 100	Blue intensity Tube off Intensity 1→100% Intensity 100%

Stage Cyclo Specifications

PHYSICAL

L x W x H	1272 x 209 x 135 mm (50 x 8.2 x 5.3 in.)
Weight	10.5 kg (23.1 lbs)
Shipping weight	11.5 kg (25.3 lbs)
Shipping dimensions	1300 x 350 x 210 mm (52 x 14 x 8,4 in.)
Fixture color	Gunmetal

SOURCE

Light source	T5 fluorescent tubes (4 x 54W)
Approved lamp type	OSRAM T5 high output 54W
Color authenticity	Guaranteed to 10 000 hours
Average tube life	20 000 hours

PHOTOMETRICS

Efficiency	28%
Total Output	3976 lumens
Half peak angle C0 (horizontal)	95°
Half peak angle C90 (vertical)	83°
One-tenth peak angle C0	107°
One-tenth peak angle C90	121°
Illuminance	2066/distance ² [lux]
Measurement conditions	230V, 50Hz
Measurement source	Osram T5 FQ54W/840+/60+/66+/67

DYNAMIC EFFECTS

0-100% dimmable tubes	Red, green, blue and white
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CONTROL AND PROGRAMMING

Control	USITT DMX512 (1990)
Receiver	RS-485
DMX addressing	DIP switch
Data input/ output	3-pin and 5-pin XLR, RJ-45
Number of DMX channels	4

INSTALLATION

Floor or surface mounting with adjustable legs	
Stacking/side-by-side/end-to-end: lockable with Martin omega brackets	
Rigging with optional adjustable mounting bracket and omega brackets	
OrientationAny
Minimum free space around fixture25 mm (1 inch)

POWER

AC power, 230 V model.	198 - 250 V, 50/60 Hz
AC power, 110 V model.	100 - 120 V, 60 Hz
AC input.	Neutrik PowerCon® (A-type) lockable connector
Main fuse, 230 V model.	2 AT (P/N 05020009)
Main fuse, 110 V model.	2.5 AT (P/N 05020010)

Maximum current and power

@ 100 V, 60 Hz	2.2 A, 218 W, PF 0.998
@ 120 V, 60 Hz	2.0 A, 235 W, PF 0.999
@ 208 V, 60 Hz	1.2 A, 235 W, PF 0.993
@ 230 V, 50 Hz	1.1 A, 234 W, PF 0.988
@ 240 V, 50 Hz	1.0 A, 233 W, PF 0.986
@ 250 V, 50 Hz	1.0 A, 231 W, PF 0.983

PF = power factor

THERMAL

Maximum ambient temperature (T_a)	40°C (104°F)
Minimum ambient temperature (started at full power)	-20°C (-4°F)
Maximum total heat dissipation (calculated)	737 BTU/hr.
Cooling	Convection

CONSTRUCTION

Housing	Mild steel
Optics	High specular 99.9% aluminum
Protection factor	IP20

APPROVALS



European safety: EN 60598-1
EN 60598-2-17 + Corr + A2-1997
CSA C22.2, NO 166 pending
ANSI/UL 1573 pending

INCLUDED ITEMS

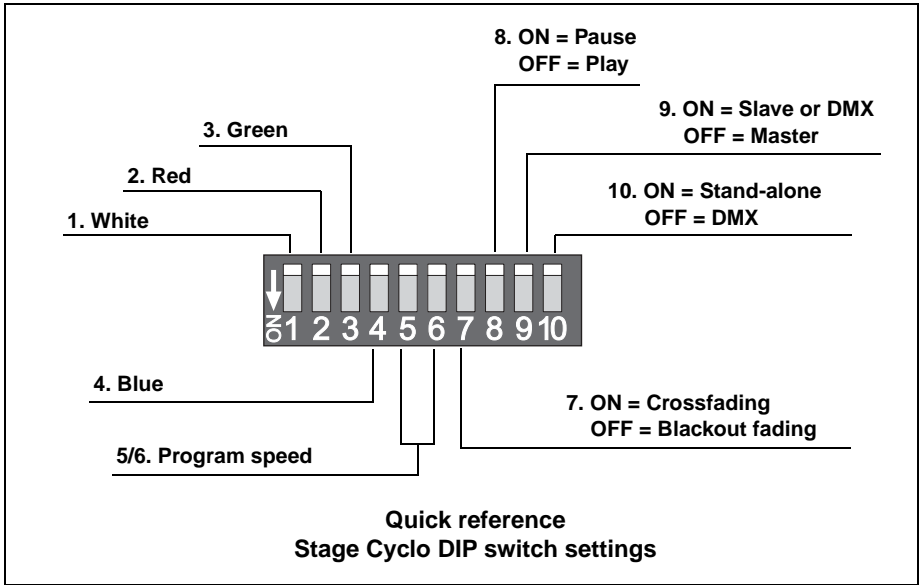
Red T5 high output tube	OSRAM T5 FQ 54W/60
Green T5 high output tube	OSRAM T5 FQ 54W/66
Blue T5 high output tube	OSRAM T5 FQ 54W/67
Cool white (4000 K) T5 high output tube	OSRAM T5 FQ 54W/840
2 x omega brackets incl. 1/4 turn fasteners.	2 x P/N 91602001
Neutrik PowerCon® NAC3FCA power cable connector	P/N 05342804
User manual	P/N 35000167

ACCESSORIES

Stage Cyclo mounting bracket	P/N 91611206
Omega bracket with 1/4 turn fasteners	P/N 91602001
Warm white tube (2700 K, Osram T5 FQ 54W/827)	P/N 97020009
Daylight white tube (6000 K, Osram T5 FQ 54W/860) . .	P/N 97020011
DMX link termination plug RJ-45	P/N 91613028
DMX link termination plug male XLR 3-pin	P/N 91613017
RJ-45 patch cable (250 mm/ 9.8 in.)	P/N 11840088
XLR male to RJ-45 converter	P/N 11840087
XLR female to RJ-45 connector	P/N 11840086
50 x CAT5 network cables - 2 m (6.5 ft)	P/N 91611044
30 x CAT5 network cables - 5 m (16.4 ft)	P/N 91611045
15 x CAT5 network cables - 10 m (32.8 ft)	P/N 91611046

ORDERING INFORMATION

Stage Cyclo, 208-250 V, 50/60 Hz	P/N 90350000
Stage Cyclo, 100-130 V, 60 Hz	P/N 90350100



Martin

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