

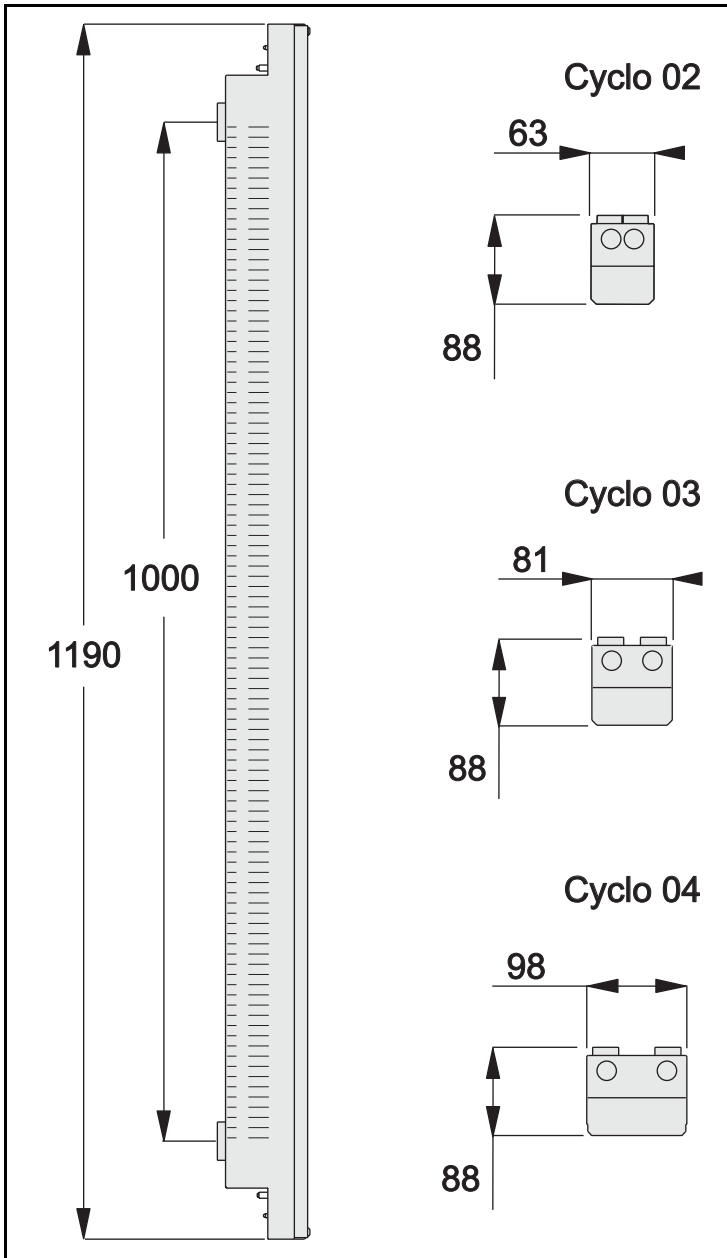
Cyclo Series

user manual



MartinArchitectural

Measurements are in millimeters



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INTRODUCTION

Thank you for selecting the Martin Cyclo. The Cyclo Series is a range of controllable, fluorescent color changers. These fixtures are designed to be used for cove lighting, perimeter lighting, light walls, behind semi-transparent materials, or any place where room is restricted.

Cyclo is a family of fixtures based on dimmable fluorescent T5 tubes. The T5 tubes have achieved widespread popularity due to their sleek design and high efficacy combined with their long lamp life.

In order to be DMX controlled, the Cyclo fixtures require the Martin 516 DMX to 0-10 V Converter. The 516 Converter converts DMX to 0-10 V analog output. Additional Cyclos can be daisy-chained for synchronous dimming. A single 516 Controller can control between 8 to 4 Cyclo fixtures (depending on the model).

Cyclo control and power-cables are through-wired for easy installation.

The Cyclo series offers:

- Controllable RGB color-mixing and/or color temperature
- Bright output
- Long lamp life of 20,000 hours

Note: *It is important to read this manual through before you attempt to install this product.*

Cyclo fixtures

CYCLO 02

Cyclo 02 contains a single warm white tube and a single cold white tube.

It is designed as a functional lighting fixture for applications where dimmable color temperature control ranging from 2700K up to 6000K are desirable.

CYCLO 03

Cyclo 03 contains dimmable red, green and blue tubes and is a cost efficient RGB solution.

CYCLO 04

Cyclo 04 contains dimmable red, green, blue and white tubes.

SAFETY INFORMATION

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

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

Protection from electric shock

- Disconnect the fixtures from AC power before removing or installing a lamp, fuses, or any part, and when not in use.
- Always ground (earth) the fixtures electrically.
- Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault protection.
- Do not expose the fixtures to rain or moisture.
- Refer all service to a Martin service technician.

Protection from burns and fire

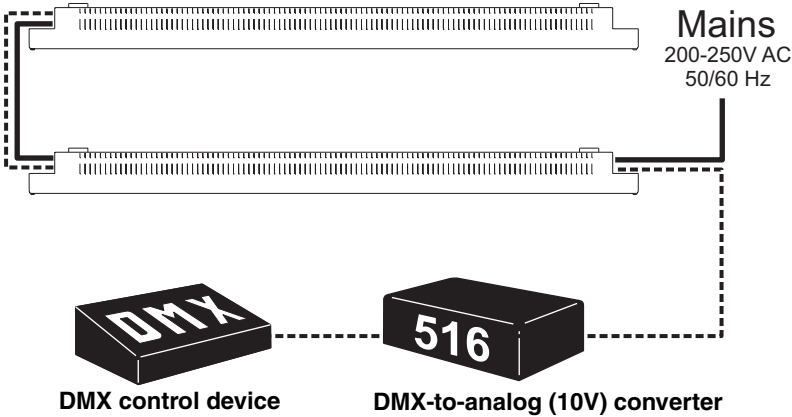
- Provide a minimum clearance of 0.1 meters (4 inches) around the fixture.
- Do not modify the fixture or install other than genuine Martin parts.
- Do not operate the fixture if the ambient temperature (Ta) exceeds 40° C (104° F).

Protection from injury due to falls

- Verify that all external covers and rigging hardware are securely fastened
- Block access below the work area whenever installing or removing the fixture.

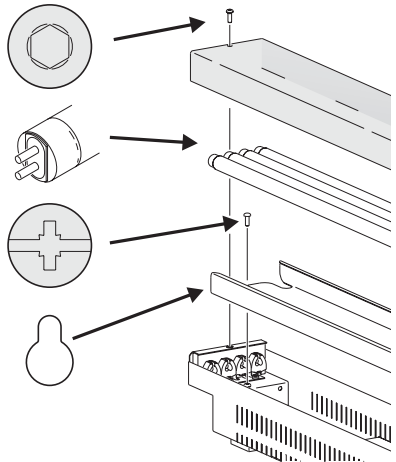
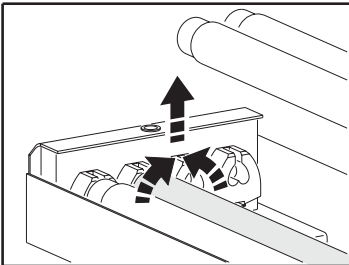
INSTALLATION

This section describes in general terms how to install the fixture and connect it to AC and dimmer power. These procedures shall be performed by qualified professionals.



Open the fixture:

- 1 Remove the fixture's clear plastic cover using a 2.5 mm Allen wrench.
- 2 Carefully remove each of the bulbs by rotating them (at the ends) until you are able to pull one end out, and then remove the entire tube.

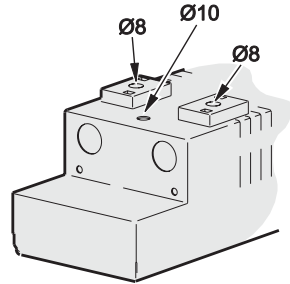


- 3 Using a Phillips screwdriver remove the two screws holding the cover of the wiring housing in place; remove the cover.

Screw the fixture into place using, either:

- 2 x 10 mm hardware together with the supplied washers, separated by 1 metre (3.3 feet), or
- 4 x 8 mm hardware, in a matrix 1 metre by 6.5 cm square

Connect the AC power and dimmer control wiring (as described in the following sections) before replacing the wiring-housing cover, the tubes, and the clear plastic cover.



AC POWER

Maximum power usage data for the three Cyclo models in supplied in “Specifications” on page 10.

You can power Cyclo fixtures by wiring them in series. The internal wiring of the fixtures carries AC power through the fixture. Holes are supplied at both ends for input and output cables.

Warning: *In the Cyclo series fixtures incorporate a single electronic ballast per tube. Each of these “leaks” around 0,2 til 0,5 mA of power. This means that we recommend connecting a maximum of 40 electronic ballasts (or tubes) per phase on a 30mA HPFI circuit breaker. In some situations, dependant on the design of the installation, this leakage can reach up to 1 mA which means that the number of recommended electronic ballasts (or tubes) per phase is reduced to a maximum of 30.*

A normal 30 mA HPFI circuit breaker normally trips because of a current fault or leakage of approximately 20mA. It is important that the installation is carried out correctly in order to avoid unintentional tripping of the circuit breaker.

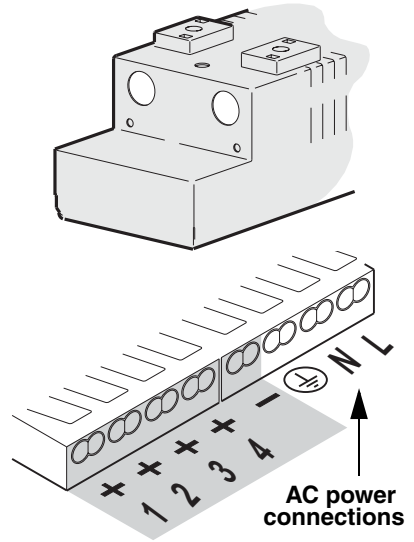
Many installations use common neutral leads in branch circuit distribution boxes. It is important that the neutral lead in the cable is connected to the same HPFI circuit breaker, that it is not connected to the neutral leads from other HPFI circuit breakers. The neutral lead must be only associated with that specific circuit breaker. Additionally it is important that the

fixtures are connected correctly to the ground (earth) to ensure that the power leakage is able to run off.

The cable for AC power is passed through one of the two 5 mm holes at the end of the fixture. These are sealed with plastic and you will need to break a hole in one of the them.

A clamp terminal with 8 connectors can be found at each end of the fixture. One is used to supply power and dimmer control to the fixture and the other is used to send power and dimmer control onwards to other fixtures in a series.

Use the three connectors *not* shaded in grey to connect AC power - L live, or positive), N (neutral) and ground (or earth).



Be sure to refer and comply with local standards. Some common AC cable configurations are:

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

If the fixture is being wired in series with other Cyclo fixtures of the same type, perform these steps at the other end of the fixture to connect it to the next fixture.

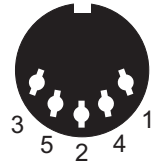
DIMMER CABLING FROM THE 516 CONTROLLER

Note: *If you apply power to a Cyclo fixture that is not connected to a dimmer then it will operate at full power.*

The 516-II DMX to 0-10 V Converter has 16 outputs for connecting 0-10 V analog devices. Each output is connected to both a 5-pin DIN socket and the 25-pin D-SUB socket. For the purposes of wiring, the pin configuration can be found on the rear panel of the 516 controller.

Wiring the 5-pin DIN connector

Use a 5-pin DIN connector to connect the controller to a series of one or more Cyclos of the same type. (The controller has 4 5-pin DIN outputs enabling control of up to four parallel series of Cyclo fixtures.)



Always connect the ground wire to pin 2, and control leads to the other pins (between 2-4 depending on the number of tubes in the Cyclo that is being connected). The pin number of each output is shown on the rear panel. Make a note of which colored leads are connected to which channels as well as which colored wire is the ground wire.

Note: *Connections can be tested without a controller by setting all pins on the converter's DIP-switch to the off position and then applying power to the converter and the devices.*

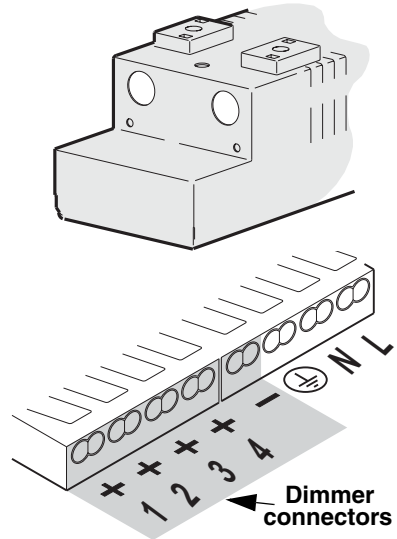
Connecting the dimmer control cable to a Cyclo fixture

The cable for dimmer control is passed through one of the two 5 mm holes at the end of the fixture. These are sealed with plastic and you will need to break a hole in one of them.

A clamp terminal with 8 connectors can be found at each end of the fixture. One is used to supply power and dimmer control to the fixture and the other is used to send power and dimmer control onwards to other fixtures in a series.

Use the connectors shaded in grey to connect dimmer control. (Note that there are fewer connectors on Cyclo models with fewer than four tubes.) Connect the ground (earth) lead to the - terminal. Connect the other leads to the appropriate connectors. Note that there are two connectors at each position and that you can use either one of these.

You can control dimming on multiple Cyclo fixtures of the same type by wiring them in series. The internal wiring in the fixture carries the dimmer control through the fixture. Holes are supplied at both ends for input and



output cables. If the fixture is being wired in series with other Cyclo fixtures of the same type, perform these steps at the other end of the fixture to connect dimmer control to the next fixture.

Note: *If you are connecting multiple Cyclo fixtures in series that the length and diameter of the control (dimmer) cabling must be dimensioned so that the voltage drop over the cabling is less than 0.5 volts.*

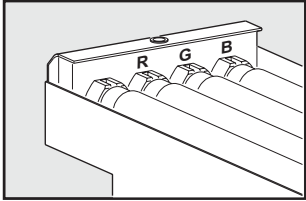
FLUORESCENT TUBES

Burning in new tubes

In order to obtain the full 20000 hour life time, new fluorescent tubes must be burned in for 100 hundred hours at full power (10 volts).

Identifying tube positions

Tube positions are identified in the Cyclo fixtures as follows:

Marking in fixture	Marking on tube	Color	Reference illustration
R	OSRAM 28/60	Red	
G	OSRAM 28/66	Green	
B	OSRAM 28/67	Blue	
None	OSRAM 28/827	2700K white	
	OSRAM 28/840	4000K white	
	OSRAM 28/860	6000K white	

SPECIFICATIONS

Cyclo 02

PHYSICAL

LxWxH.	1190 x 63 x 88 mm (50.1 x 2.7 x 3.7 in)
Weight.	3.8 kg (8.4 lbs)
Shipping dimensions	1210 x 115 x 95 mm, (51 x 4.8 x 4 in)
Shipping weight	4.1 kg (9.1 lbs)
Fixture color.	white

SOURCE

Approved lamp type.	OSRAM T5 FH 28 watt tubes
Light source	T5 tubes (2x28W)
Supplied	OSRAM T5 FH28W/827 (2700K) (white)
Supplied	OSRAM T5 FH28W/860 (6000K) (white)

POWER

AC power	198V-254V,50/60hz
Dimmer control	0-10V control
Maximum power and current @ 230 V / 50 Hz.028 A / 64 watts

THERMAL

Maximum ambient temperature (Ta):.	40° C (104° F)
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INSTALLATION

Minimum distance to combustible materials:	1 m (39 in)
Minimum distance to illuminated surfaces:0.5 m (20 in)
Orientation:.	any

ORDERING INFORMATION

Cyclo 02.	P/N 90550020
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INCLUDED ITEMS

User manual

ACCESSORIES

Martin 516 II DMX to 0-10V Converter	P/N 90758225
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Cyclo 03

PHYSICAL

LxWxH 1190 x 81 x 88 mm (50.1 x 3.4 x 3.7 in)
Weight 4.7 kg (10.4 lbs)
Shipping dimensions 1210 x 115 x 95 mm, (51 x 4.8 x 4 in)
Shipping weight5 kg (11 lbs)
Fixture color white

SOURCE

Approved lamp type OSRAM T5 FH 28 watt tubes
Light source T5 tubes (3x28W)
Supplied OSRAM T5 FH28W/60 (red)
Supplied OSRAM T5 FH 28W/66 (green)
Supplied OSRAM T5 FH28W/67 (blue)

POWER

AC power 198 V - 254 V, 50 / 60 Hz
Dimmer control , 0-10V control
Maximum power and current @ 230 V / 50 Hz 0.42 A / 96 watts

THERMAL

Maximum ambient temperature (Ta): 40° C (104° F)

INSTALLATION

Minimum distance to combustible materials: 1 m (39 in)
Minimum distance to illuminated surfaces: 0.5 m (20 in)
Orientation: any

ORDERING INFORMATION

Cyclo 03 P/N 90550010

INCLUDED ITEMS

User manual

ACCESSORIES

Martin 516 II DMX to 0-10V Converter P/N 90758225

Cyclo 04

PHYSICAL

LxWxH.....	1190 x 98 x 88 mm (50 x 4 x 3.7 in)
Weight.....	5.5 kg (12.1 lbs)
Shipping dimensions.....	1210 x 115 x 95 mm, (51 x 4.8 x 4 in)
Shipping weight.....	5.9 kg (13 lbs)
Fixture color.....	white

SOURCE

Approved lamp type.....	OSRAM T5 FH 28 watt tubes
Light source.....	T5 tubes (3x28W)
Supplied.....	OSRAM T5 FH28W/60 (red)
Supplied.....	OSRAM T5 FH 28W/66 (green)
Supplied.....	OSRAM T5 FH28W/67 (blue)
Supplied.....	OSRAM T5 (white)

POWER

AC power.....	198 V - 254 V, 50 / 60 Hz
Dimmer control.....	0-10V control
Maximum power and current @ 230 V / 50 Hz.....	0.56 A / 128 watts

THERMAL

Maximum ambient temperature (Ta):.....	40° C (104° F)
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INSTALLATION

Minimum distance to combustible materials:.....	1 m (39 in)
Minimum distance to illuminated surfaces:.....	0.5 m (20 in)
Orientation:.....	any

ORDERING INFORMATION

Cyclo 04.....	P/N 90550000
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INCLUDED ITEMS

User manual

ACCESSORIES

Martin 516 II DMX to 0-10V Converter.....	P/N 90758225
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