



Digital Lighting Systems, Inc.

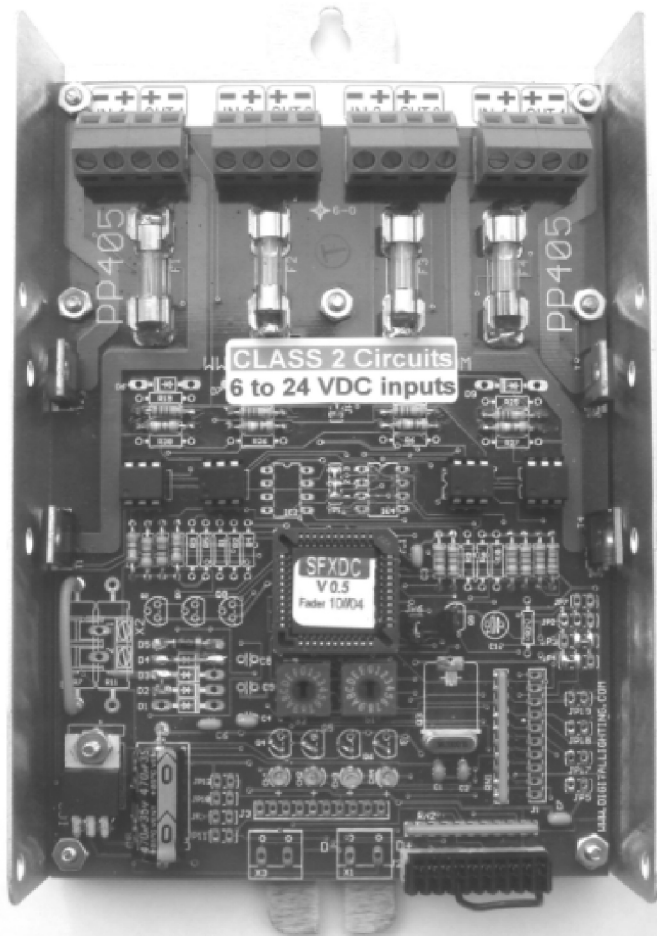
MF405-24DC

4 Channel “Mini-Fader/ Chaser ”

4 independent inputs 4 x 5 Amps

Voltage range: 6VDC to 24 VDC

4 x 5 Amps outputs



Lighting animation controller

USER'S MANUAL



General Description

The **MF405** is a four-channel lighting controller (Cross-Fader/Lighting animation) that operates on a range of VDC voltages from **6 VDC to 24 VDC** and that is capable of producing slow level changes(Color Mixing) as well as Quick ON/ OFF (Animation)

A Components diagram of the **MF405** is shown in Figure 1. **MF405** contains the equivalent of four solid-state relays (**SSR**) 4 dimmers, with 4 independent inputs and outputs. Each dimmer is rated at a maximum output current of **5 Amperes**. The **SSR** dimmers are controlled by low-voltage DC signals from the logic circuit on the board. These signals are electrically-isolated by Optical couplers from the outputs. The **MF405** logic board contains a microprocessor programmed to generate 16 user-selectable light sequences or patterns at an adjustable rate (the **MF405** is also available with a "SPELLER" pattern or custom patterns upon request). A rotary selector is used to select the pattern and a second one is used to set the rate or speed. Patterns and speed can be monitored by four LED indicators for the outputs of the **MF405**.

Please contact the factory for additional information by telephone 1-305-969-8442 or email info@digitallighting.com

MF405 Detail

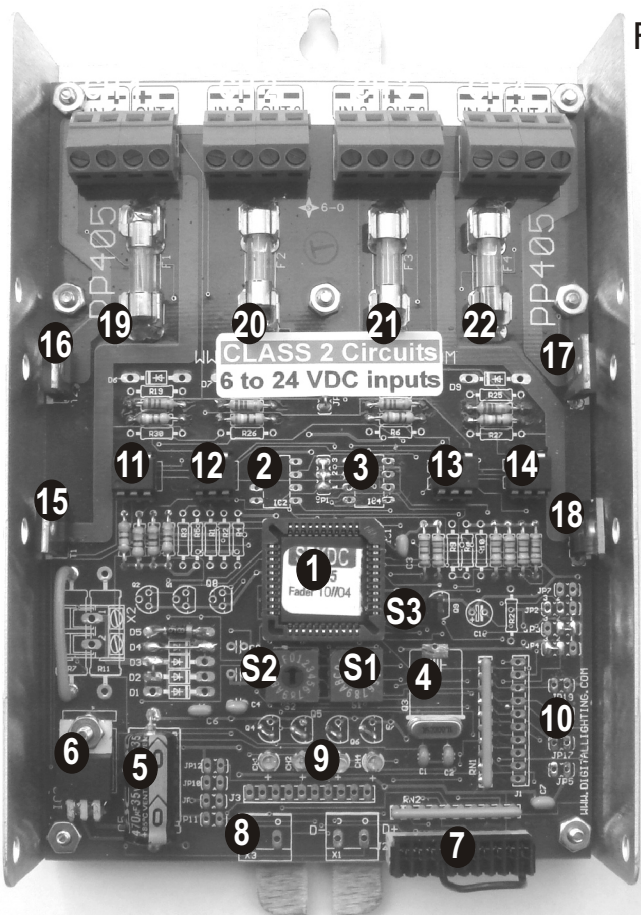


Figure 1 -MF405-24DC components details

Table 1 - INPUT / OUTPUT Terminals Definition

NAME	DESCRIPTION
CH 1	INPUT / OUTPUT Of Solid-State Relay #1
CH 2	INPUT / OUTPUT Of Solid-State Relay #2
CH 3	INPUT / OUTPUT Of Solid-State Relay #3
CH 4	INPUT / OUTPUT Of Solid-State Relay #4

Negative side switches, Common Positive

Table 2 - Absolute Maximum
Electrical Ratings

Electrical Characteristic Terminal Maximum

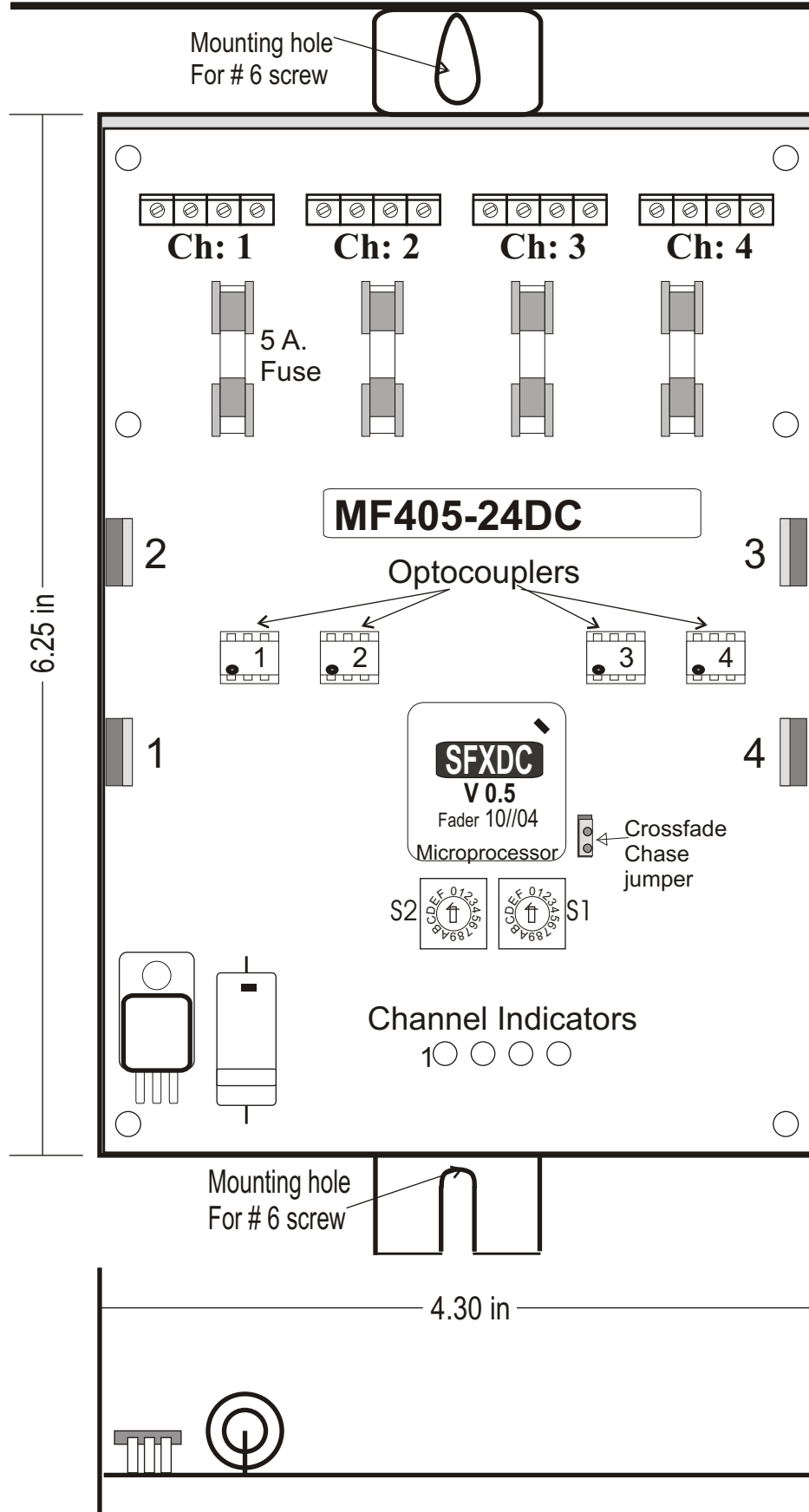
Relay Load Current	1 to 4	5 Amps.
Input Current	1 to 4	5 Amps.
Input Voltage	6 to 24 VDC	PP405-DMX-24DC

Table 3 - PP405-DMX Circuit Legend

1	Microprocessor.
2	Not used
3	Not used
4	Quartz Crystal.
5	Power Supply Capacitor.
6	Voltage Regulator.
7	Number of channels jumper
8	Not used
9	Output LED Monitors.
10	Not used
11,12,13,14	Optical Couplers # 1,2,3,4
15,16,17,18	MOSFET # 1,2,3,4
19,20,21,22	Fuse 5mm ,5 AMPS fast blow
S1	Rate speed selector
S2	Mode Pattern selector
S3	Fade / Chase jumper



Figure 3 - MF405
Dimensional Diagram



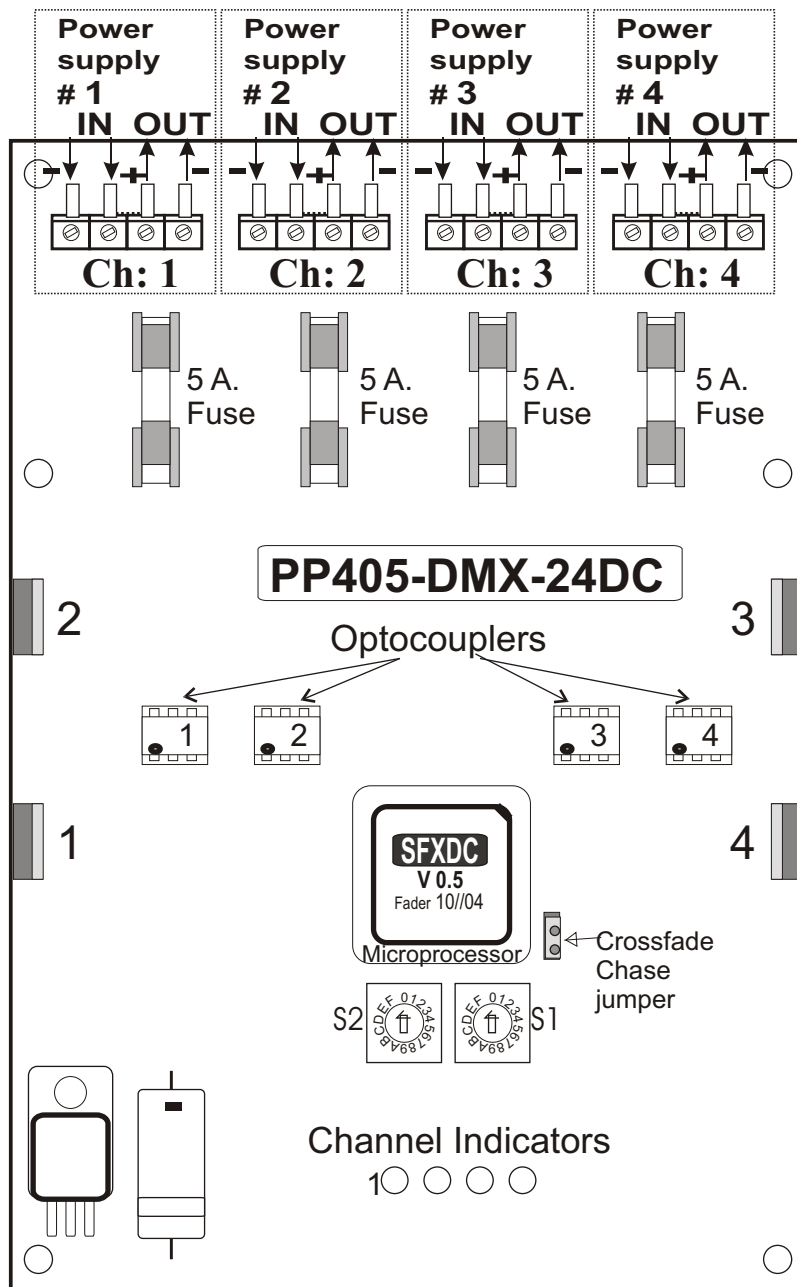
Mechanical Installation

The **MF405-24DC** modules are designed to be mounted in NEMA enclosures. Mounting Holes : 7" O.C. (by others).

Figure 9 - MF405-24DC GENERAL WIRING INSTRUCTIONS:

Wiring Notes

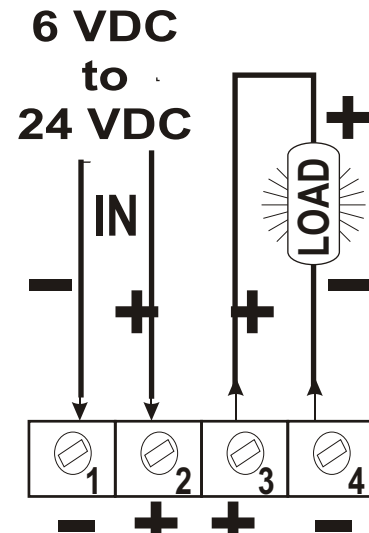
- ❑ **DO NOT EXCEED** 120W @ 24 VDC or 60 W @ 12 VDC (5 Amps.) per dimmer output
- ❑ **MF405-24DC** dimmer Modules may be fed by 4 Class 2 Power supplies
- ❑ **CAUTION: DO NOT** attempt to parallel outputs to increase capacity.
- ❑ **Installation must conform to local and/or NEC code requirements and must be performed by a qualified electrician.**
- ❑ **POWER EACH LOAD DIRECTLY BEFORE CONNECTING IT TO THE MF405-24DC TO ENSURE PROPER WIRING.**



Common POSITIVES (Anodes)
Switched NEGATIVES (Cathodes)

For class 2 compliance
USE 4 independent power supplies
Maximum 5 Amps or 100 watts
Voltage range:
6VDC ≤ V in ≤ 24 VDC

TYPICAL CHANNEL CONNECTION



TERMINAL #
1 = INPUT - (Negative)
2 = INPUT + (Positive)
3 = OUTPUT + (Positive)
4 = OUTPUT - (Negative)



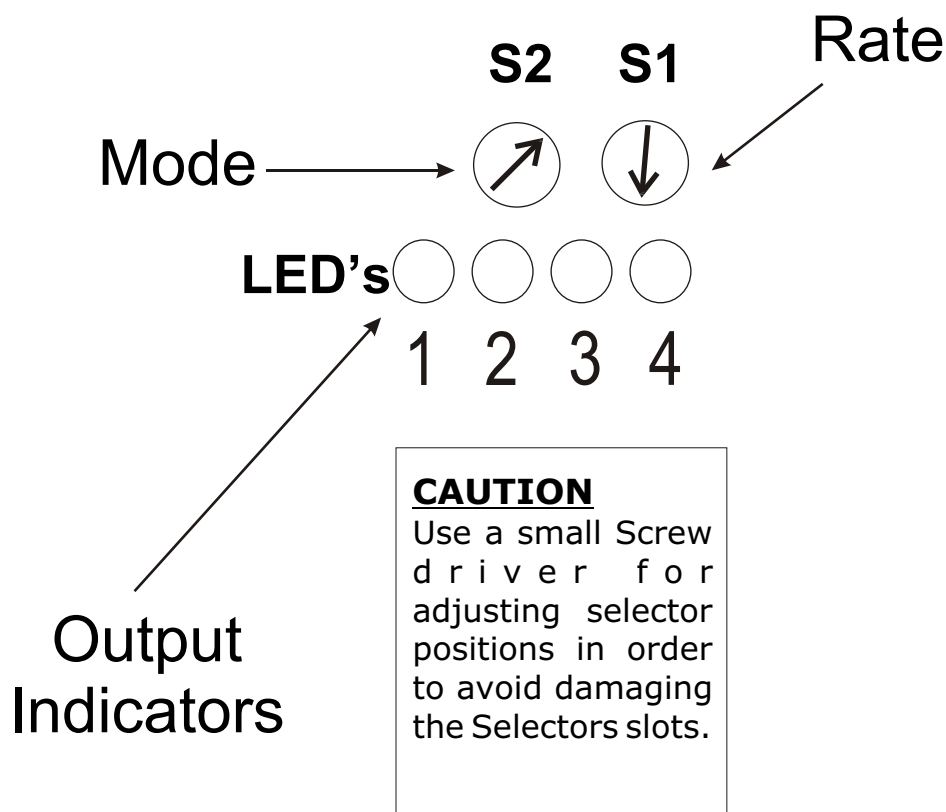
Controls

The controls consist of two rotary 16-position (**0-9** and **A-F**) selectors. **S2 (PATTERN)** is used for selecting the desired Fade pattern. Positions **0** will scroll through the patterns automatically to provide an ever changing light show. The **MF405** outputs can be turned to static **ON** by selecting **F**. When **0** is selected, the **MF405** goes into an automatic pattern change mode. All other positions cause the **MF405** to play a single pattern indefinitely. **S1** is used to select one of 16 individual Fade rates (**Rate**). Minimum speed is achieved by selecting position 0. Speed doubles with each subsequent selector position.

Indicators

LED indicators 1 to 4 indicate the status (On-Dimmed-Off) of their corresponding

Figure 9 - MF405 Indicators and Control Selectors



S3 Jumper

Select between fast ON/OFF Chasing or gradual ON/OFF cross fading



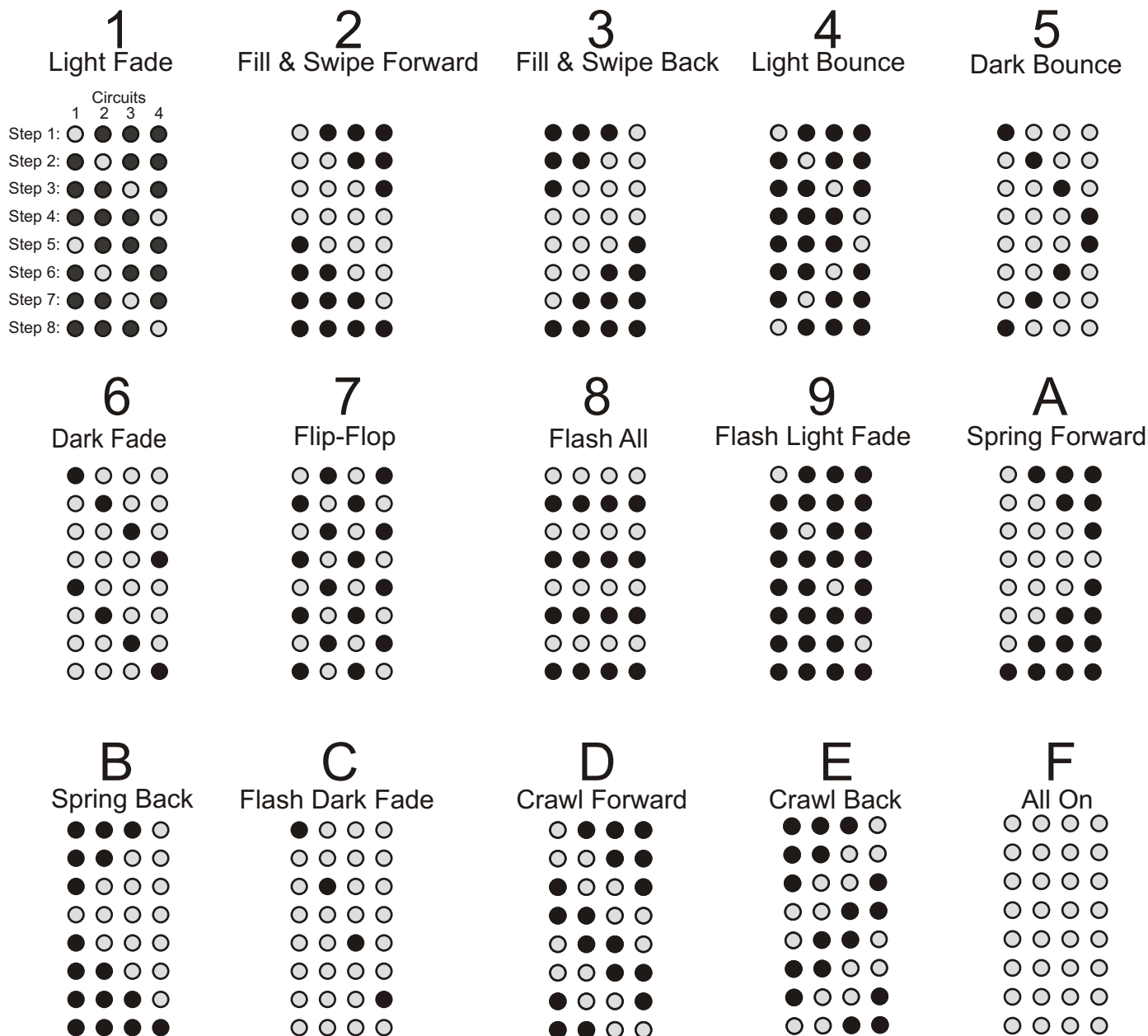
S3 Jumper IN = Chase



S3 Jumper Out = Cross Fade



Patterns for MF405



0

Auto Cycle
Patterns 1-F
4 x each
then repeat

KEY: ○ ON
● OFF

LIMITED WARRANTY

Digital Lighting Systems, warrants to the purchaser that its products have been carefully manufactured and inspected and are warranted to be free from defects of workmanship and materials when used as intended. Any abuse or misuse contrary to normal operation shall void this warranty.

Digital Lighting Systems' obligation under this warranty shall be limited to replacement or repair of any units as shall within one year of date of invoice from **Digital Lighting Systems**, prove defective; and **Digital Lighting Systems** shall not be liable for any other damages, whether direct or consequential. **The implied warranties of merchantability and fitness for a particular purpose are limited to the duration of the expressed warranty.** Some states do not allow the exclusion of the limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, you may also have other legal rights which vary from state to state.

Defective merchandise may be returned to **Digital Lighting Systems**, prepaid, after prior notification has been given and approval obtained for the return. To obtain prior approval for the return of the defective items, contact your local Digital Lighting Systems distributor, representative, or:

Digital Lighting Systems, Inc.

Attn: Customer Service Department
12302 SW 128th ct, # 105
Miami, FL 33186
(305) 969-8442



Upon request, replacement unit(s) will be shipped as soon as available. Unless immediate shipment of replacement merchandise is requested, **Digital Lighting Systems** will not ship replacement merchandise until defective merchandise is received, inspected, and determined to be defective.

No labor charges in connection with warranty problems will be reimbursed by Digital Lighting Systems without prior written approval from the factory.

Digital Lighting Systems distributors and representatives have no authority to change this warranty without written permission.

Digital Lighting Systems reserves the right to determine the best method of correcting warranty problems.

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