HYDREL

CATALOG NUMBER

NOTES

TYPE



M9700 RGBW

LED Color Changing In-Grade Luminaire

HIGHLIGHTS

- Factory-sealed LED lamp module and encapsulated power module
- Optical and mechanical aiming with an optional double lens
- Optimal efficiency through photometric improvements
- DMX control / RDM
- Six distributions including 8° narrow spot
- Flow-through technology
- IK08 (IK10 option available)

5 YEAR warranty

LED

IP68

WET LOCATION™

ARCHITAINMENT COLOR

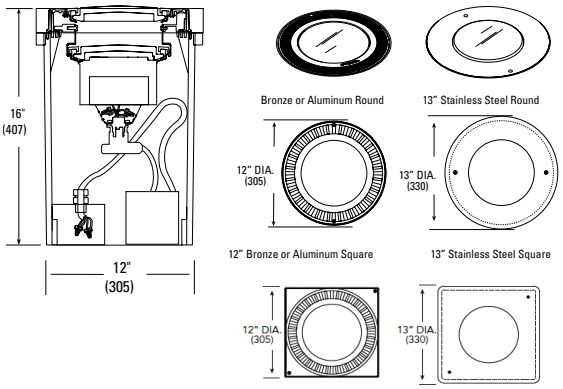
BAA

BABA

Specifications	SINGLE LENS	DOUBLE LENS
Length:	12"	12"
	305 mm	305 mm
Width:	12"	12"
	305 mm	305 mm
Height:	16"	16"
	407 mm	407 mm
Weight:	29lbs	31lbs

Weight is based on aluminum material.
For B and SS material add 2lbs.

DIMENSIONS

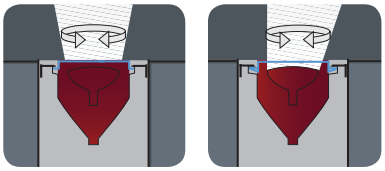


LUMEN PACKAGES

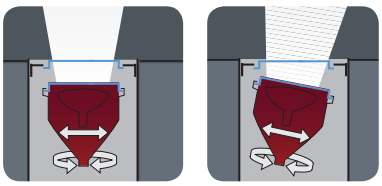
	NSP	MFL	FL	WFL	HSP	HFL
Delivered Lumens	1890	1279	1809	1162	2054	2318
Watts	22	22	22	22	22	22
LPW	86	58	82	53	93	105

Note: Information based on all colors full on.

AIMING DETAILS

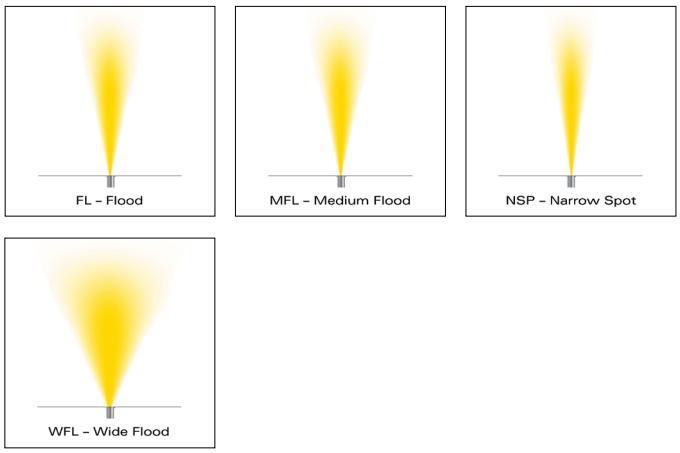


Single lensed fixture can be aimed using 10° and 20° optical tilt lenses only.



Double lens, mechanically and optically aimed.

STANDARD DISTRIBUTION



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ORDERING INFORMATION

EXAMPLE: M9720 SS 18LED RGBW MVOLT NSP FLC 34S RDM

Model		Door Material		Lamp Type		LED Color		Voltage	Distribution	
M9710	Round Door Single Lens	A	Aluminum	18LED	18 chip LED array	RGBW	40K White (80CRI)	MVOLT (120 - 277)	NSP	Narrow Spot
M9720	Round Door Double Lens	B	Bronze						MFL	Medium Flood
M9730	Square Door Single Lens	SS	Stainless Steel						FL	Flood
M9740	Square Door Doubdle Lens	*Note: Aluminum material is not available with M9730C and M9740C square door*							WFL	Wide Flood
									HSP	Horizontal Spot
									HFL	Horizontal Flood

Lens[1]				Conduit Entries		Control		Accessories	
FLC	Flat Lens Clear	FLCSR[2]	Flat Lens Clear Slip Resistant	12S	1/2" NPT Side and Bottom	RDM[4]	Remote Device Management	Internal[5]	
FLC5	Flat Lens Clear, 5° Axial Spread	FLC5SR[2]	Flat Lens Clear, 5° Axial Spread, Slip Resistant	34S	3/4" NPT Side and Bottom			IHL[6]	Internal Honeycomb Louver
FLC10	Flat Lens Clear, 10° tilt	FLC10SR[2]	Flat Lens Clear, 10° tilt, Slip Resistant	25S[3]	25mm Side and Bottom			LSF	Linear Spread Filter
FLC20	Flat Lens Clear, 20° tilt	FLC20SR[2]	Flat Lens Clear, 20° tilt, Slip Resistant					External[5,7]	
FLF	Flat Lens Frosted							GS	Glare Shield
FLCAS	Flat Lens Clear, Anti-Slip							LC	Lexan Cover
FLC5AS	Flat Lens Clear, 5° Axial Spread, Anti-Slip							LS	Light Shield
								RG	Rock Guard Note: For IK10 use external RG option
								Trim Ring[5,7]	
								BTR	Brass Round
								STR	Stainless Round

Finish[8]				Optional Listing	
BL	Black	SND	Sand	IEC	International Electro-technical Commission
BZ	Bronze	STG	Steel Gray		
DDB	Dark Bronze	TVG	Terra Verde Green		
DNA	Natural Alum.	WH	White		
GN	Green	__Z[9]	Zinc Undercoat (i.e. BLZ)		
GR	Gray				

Notes:
1 Specify top lens. Bottom lens is FLC standard.
2 Meets ADA requirements for coefficient of friction.
3 Only for use in 50HZ applications.
4 RDM = Field discoverable and field programmable DMX.
5 Accessories are mutually exclusive, choose one only.
6 Not available with FLC10.
7 Accessory not available with SS door material.
8 Finish only available on "A" door material.
9 Add Zinc undercoat for harsh environments.

ELECTRICAL LOAD

			Current (A)			
Light Engines	**Drive Current (mA)**	**System Watts**	120	208	240	277
18LED	450mA	22	0.18	0.11	0.09	0.08

SLIP RESISTANCE AND LOAD RATING

M9700 LED
MAXIMUM LOAD RATING
Peak compression force of 3,750 lbs. (single lens).
LENS STATIC COEFFICIENT OF FRICTION
M9700 Anti-Slip Lens (FLCAS): Dry = 0.76; Wet = 0.10
M9700 Slip Resistant Lens (FLSR): Dry = 0.84; Wet = 0.65

M9700 LED Series Assembly consists of the following individual components parts	MRIS97 Rough-In Housing
	MFS97 Finishing Section
	MACL Lamp Module
	MHSL97 Power Module

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PERFORMANCE DATA

LUMEN OUTPUT

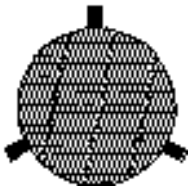
Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Actual performance may differ as a result of end-user environment and application. Contact factory for performance data on any configurations not shown here.

	Distribution	NEMA Type	Beam Angle (50%) H x V	Field Angle (10%) H x V	Watts	LPW	Delivered Lumens
All Colors Full On	NSP	2 x 2	8 x 8	20 x 20	22	86	1890
	MFL	3 x 3	21 x 21	39 x 39	22	58	1279
	FL	5 x 5	73 x 47	94 x 79	22	82	1809
	WFL	6 x 6	100 x 100	125 x 125	22	53	1162
	HSP	3 x 2	26 x 10	40 x 23	22	93	2054
	HFL	2 x 4	10 x 38	22 x 54	22	105	2318

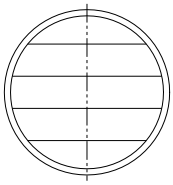
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ACCESSORIES

INTERNAL

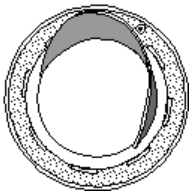


INTERNAL HONEYCOMB LOUVERS — IHL
Hexagonal cell louver with 45° cut-off.

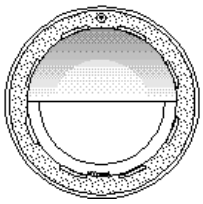


LINEAR SPREAD FILTER — LSF
6.68" diamter, spreads the beam of light along one axis only. May be oriented to spread the light horizontally or vertically.

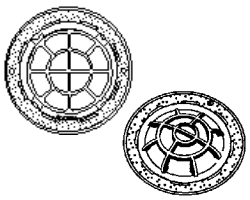
EXTERNAL



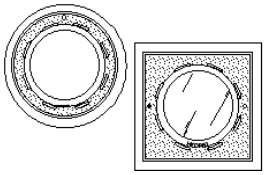
QUARTER GLARE SHILEDS — GS
Rolled sheet aluminum or brass. 360° of adjustment on fixture door, with lock down. May be field installed to door as shown.
(Not recommended for foot traffic areas.)



HALF LIGHT SHIELD — LS
(Quarter Spherical External)
Cast aluminum or bronze shield for glare control for wall wash units. 360° adjustment allows field setting and lock down. May be field installed to door as shown.
(Not recommended for foot traffic areas.)



ROCKGUARD — RG
Cast aluminum or cast bronze material.
(Not recommended for foot traffic areas.)



STAINLESS STEEL or BRONZE TRIM RINGS — BTR, BTS, STR, STS
A decorative escutcheon used when a high finish look is wanted. For finishing marble, tile or other installations. Available in round or square. Door is flush with escutcheon. Not available on SS doors.



LEXAN DOME — LC
A Lexan protective cover for use in areas where loose debris such as leaves and pine needles accumulate.

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TAKE CONTROL

Hydrel lighting solutions bring ease of use, innovation, and next-generation control features to commercial, underwater, and architectural outdoor applications. We offer a dedicated team of specification engineers to take you through lighting design, the specification process, to the installation of our fixtures. We simplify the complex and help you create the right layer of light for any outdoor lighting environment. Find the right architectural outdoor fixture, controls, and network connectivity with Hydrel Lighting Solutions.

CONTROLS

RECOMMENDED CONTROLS

Easyl DMX TOUCHSCREEN
http://www.acuitybrands.com/products/detail/210270/Fresco/Easyl/Easyl-DMX512A-Show-Controller

FRESCO
http://www.acuitybrands.com/products/detail/223381/Fresco/Fresco/Touchscreen-Lighting-Controllers



Easyl™ Solo	is a standalone entry-level controller enabling show creation and playback directly at the LCD touchscreen.
Easyl™ Touch	features an astronomic time clock for automating shows and expands the controller's features by accepting inputs from remote button stations, and button station contact closure inputs.
Easyl™ Pro	is further enhanced by using Easyl Studio™ computer software to create multi-zone shows, and Easyl Pro features a 20 hour DMX512 capture from a theatrical console.
FCS	Create and edit 36 lighting scenes including intensity, color, and color temperature Integral astronomic timeclock with battery backup for system scheduling Direct DMX control for 1 universe (512 slots) Internal Bluetooth® radio for wireless App control.

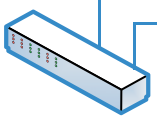
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DMX SYSTEM WIRING — INGRADES



DMX Controller
(ordered separately)
Easyl Pro controller by Acuity Brands is the recommended console

128 Fixtures total per DMX Universe



DMX Splitter
for use with applications that have more than 32 luminaires. If less than 32 luminaires skip this step. (Splitter by others)

DMX512 Bus network may be no more than 1,000 feet (300 meters) with no more than 32 devices per bus.

Parallel bus for more than 32 luminaires

DMX IN & OUT **Signal Wire**

Luminaire 1

Luminaire 2

Luminaire 10

Luminaire 32

JBox #1

JBox #2

Fixtures may either be run individually back to a junction box or sets of fixtures may be "daisy-chained" together and the entire run wired back to a junction box. Signal side and power side must be segregated in separate junction boxes and separate conduit. Diagram to the left showing the more common "daisy-chain" option.

See page 2 for detailed wiring diagrams inside of luminaire or junction box

Power Conduit

Up to 32 Luminaires per DMX Line

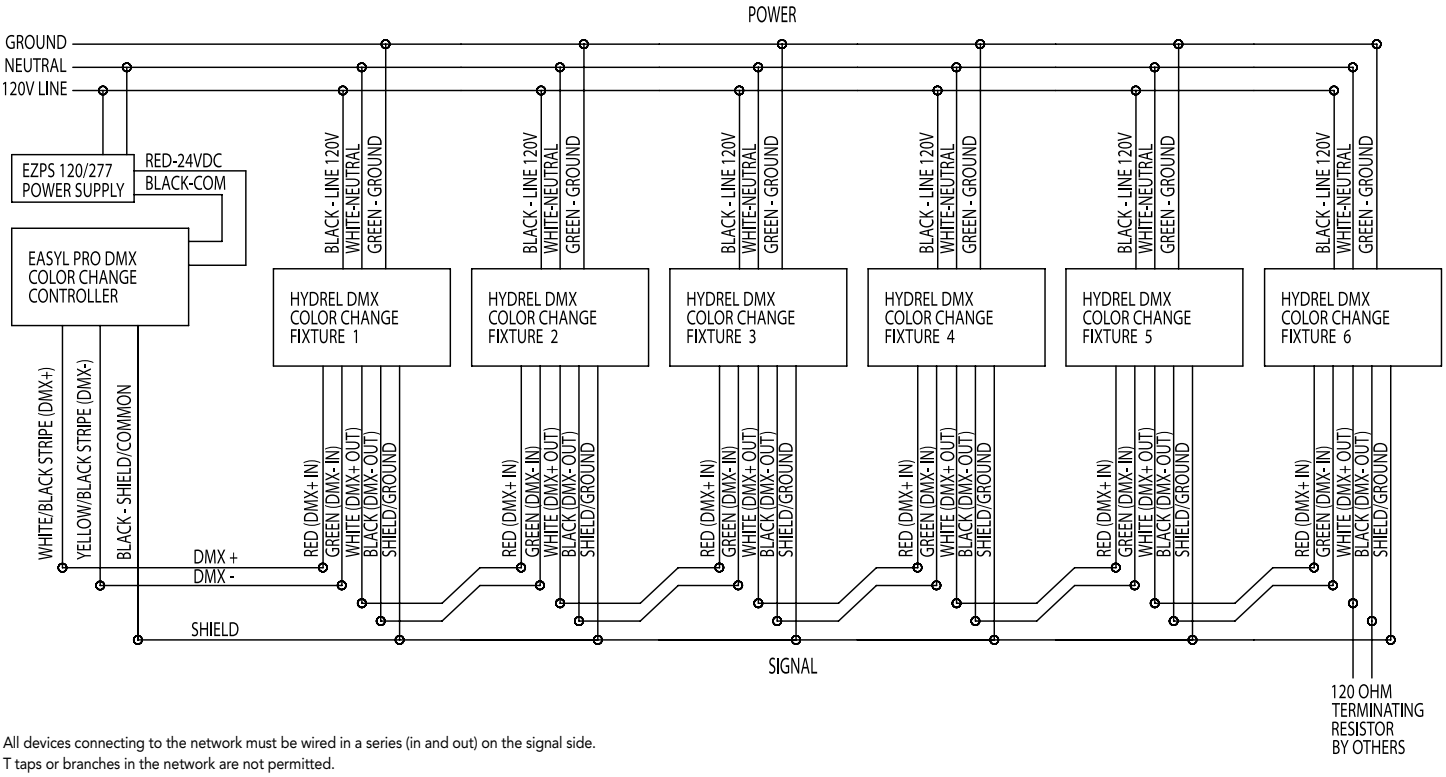
120 Ω resistor required on signal side

Power (120-277VAC)

Notes:
1 MDMX512 signal cable must be terminated by a 120 ohm resistor.
2 Signal cable by others, cable must be two-pair with a maximum capacitance of 12.8 pF/ft. and a impedance of 120 ohm.

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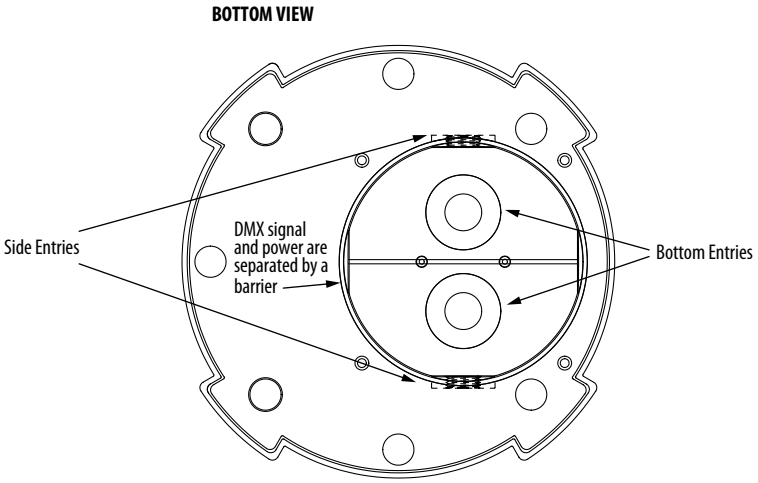
DMX CONNECTION AND TERMINATION — WIRING DIAGRAM

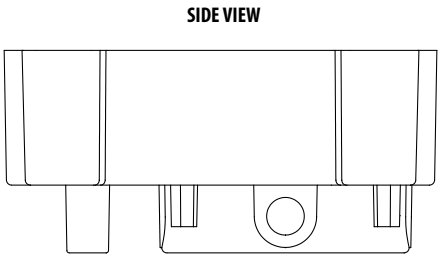


All devices connecting to the network must be wired in a series (in and out) on the signal side.
T taps or branches in the network are not permitted.

JUNCTION BOX DETAIL:

Junction box is segregated by a barrier separating the DMX signal side (low voltage) and the inline power side (120-277 volt). Each half of the junction box has a side and a bottom conduit for in and out feeds. This fixture is suitable for "daisy-chaining" within the junction box.





SPECIFICATIONS AND FEATURES

DOOR MATERIAL: Cast aluminum, cast bronze or stainless steel.

ROUGH-IN SECTION: Injection molded polymer with integral junction box for thru-branch wiring. The housing is U.V. stabilized, impact and corrosion resistant for use in all types of environments. The rough-in houses the LED and power module components and top door finishing section. Potting compound (PC21) recommended for junction box splices. PC21 sold separately.

CONDUIT ENTRIES: Two (2) bottom and two (2) side entries available in 1/2" NPT, 3/4" NPT or 25mm openings.

FINISHING SECTION: Door assembly with 360° Aim-Lock™ module support ring. Module indexing provides easy maintenance and relamping without re-aiming. Door trim locks into position with two stainless steel captive, tamper-resistant fasteners. Double lens design includes door assembly with 360°Aim-Lock™ module support and tilt ring that allows 15° of aiming. Active optical lenses are also available.

LED MODULE: Stainless steel housing, factory-sealed and purged of all moisture for longer component life. Lens is sealed with silicone gasket and stainless steel clamp band assembly with single fastener. Electrical connection to LED module is done through a submersible quick disconnect plug connector with gold-plated contacts.

LIGHT ENGINE: 22 watt RGBW (40K white 80CRI) LED array. Heat generated by LEDs is dissipated into and through the fixture housing, and adds less than 15°C to steady state operating lens temperature. For example, in a typical 25°C (77°F) operating environment, lens temperature would not exceed 40° C (104°F).

OPTICS: NEMA Flood (2x2 through 6x6), horizontal spot, horizontal flood. Led module has 360° of rotation. Aiming is done using 10° or 20° optical tilt lenses.

POWER MODULE: Driver and controller are housed in a bronze junction box. Module is provided with submersible rated cord leads for connection to integral junction box and lamp module.

ELECTRICAL: 22 watt Integral ELDO RGBW power driver MVOLT (120-277) 50/60Hz LED power supply dims to zero. THD <20%, class 2 driver with 100% to 0% dimming.

VOLTAGE: MVOLT 120-277 volt 50/60HZ.

CONTROL: DMX512. Color control is achieved through standard DMX512 hardware, at a maximum of 44 frames per second. All channels have logarithmic power for finer color and intensity control. Compatible with the Easyl and Fresco controllers from Acuity. Controllers must be ordered separately.

FINISH: Finish is natural aluminum or bronze. Stainless steel door is brushed finish. Aluminum doors may be painted.

LISTING: cCSAus, suitable for wet locations, laboratory tests conducted by CSA to UL Standard UL-1598 and UL-8750

GOVERNMENT PROCUREMENT
BAA – Buy America(n) Act: Product qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/resources/buy-american for additional information.

WARRANTY: 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

Consult factory for details.

NOTE: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

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