

482CRM Series Multicolor LED CAN (J1939) Rocker Module

The 482CRM series is a programmable multi-color LED rocker module, designed to operate within a Controller Area Network (CAN).

This innovative new product incorporates independently controlled LED's, allowing custom-configured color selection on a per LED basis. Via configuration utility software, each LED is capable of being configured to produce up to 16 unique colors without the need for special ordering or assembly.

The 482CRM utilizes a patented system of optical interrupters to create a switch output, which means no electrical contacts within the switch. The 482CRM provides interchangeable cams, including switch configurations:

- 1 & 2 position momentary
- 2 & 3 position stationary
- 2 position momentary / 1 position stationary

These cams are designed on a simple snap-in platform that allows for easy and inexpensive assemblies and modifications. In addition, switch banks greater than eight positions can be combined by dovetailing multiple units together.



features

- LED configuration - choose from 8-color palette
- Each LED can be configured with up to four unique system-status colors
- Interchangeable cams create different switch modes
- Laser-etched actuators (customer-specified legends)
- Rocker module uses optical interrupters (no contacts)
- Panel assembly is water-proof
- Free configuration software for programming and diagnostics

design specifications

- Shock: Mil Std 202 method 213 test condition 1
- Moisture resistance : IP68
- PCB characteristics : UL94V-0
- Salt Spray: Mil Std-202G, method 101E, test condition B, 48 hours
- Thermal Shock: MIL-STD-202G, Method 107G, test condition A-1, 5 cycles
- UVB certification: UVB 400 hours

www.hmisystems.net



electrical specifications

Description	Minimum	Nominal	Maximum
Operating Voltage	10 VDC	12 / 24 VDC	32 VDC
Operating Current	75 mA	—	350 mA
Sleep mode current	1.5 mA	—	—

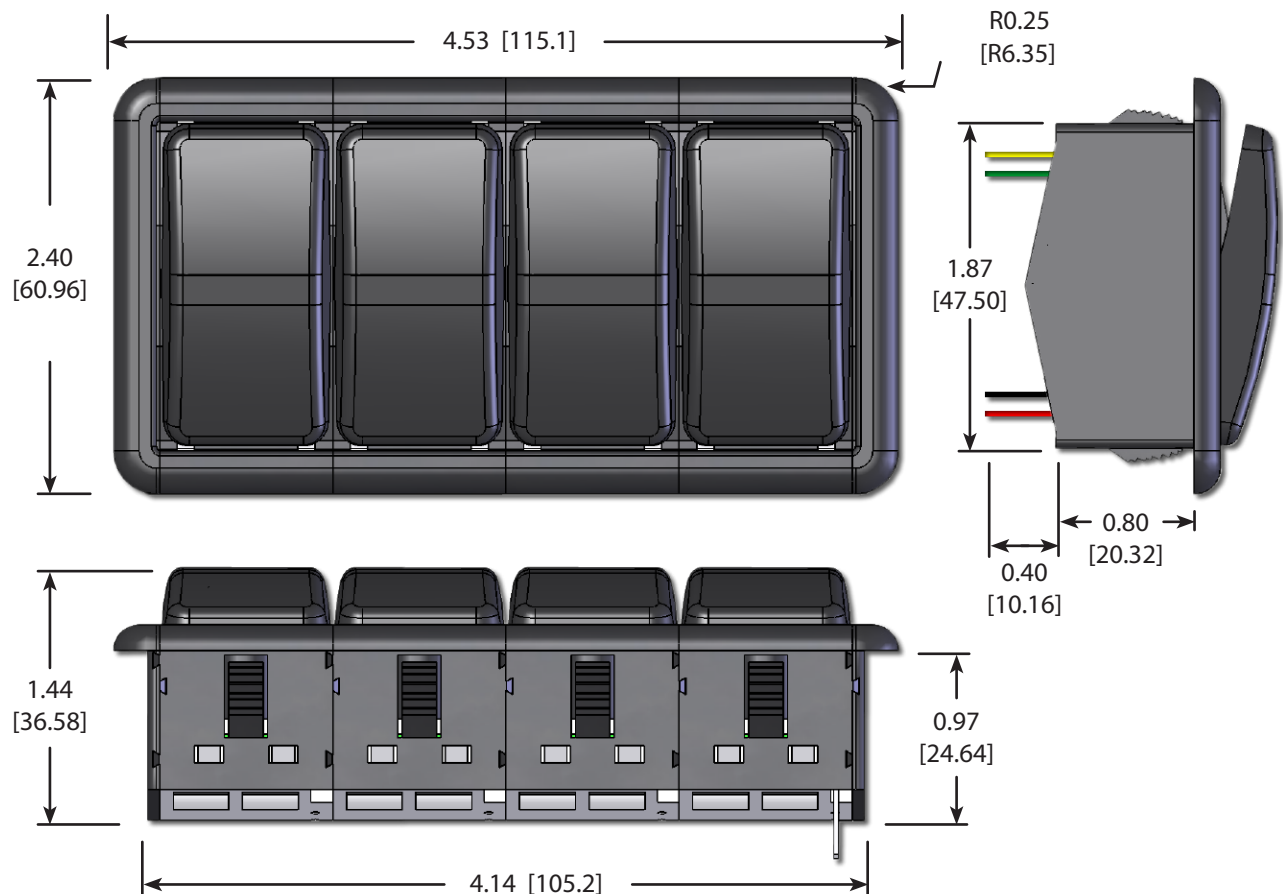
physical specifications

Description	Color	Intensity
Visible Lighting (without actuator installed)	Red	1500 ~ 2100 mcd
	Green	4200 ~ 5800 mcd
	Blue	1100 ~ 1500 mcd
Housing	UL 94 V-0 rated Polycarbonate	
CAM, Arm, Arm Housing	UL 94 V-0 rated Polycarbonate	
Arm Spring	SUS304	
Actuator	Lexan®, laser etched with clear coat	
Actuator Guard	UL 94 V-0 rated Polycarbonate	
Operating Temperature	-40°C to 85°C	
Storage Temperature	-40°C to 85°C	
Operating Humidity	0% to 100% (condensing)	
Weight (8 position)	0.375 lb (170 g)	
Endurance	Tested to 250,000 cycles	

wiring specifications

Wiring Inputs & Outputs Description Recommended Wire Gauge	V+ (red wire)	GND (black wire)	CANL (green wire)	CANH (yellow wire)
	Input	Input	I/O	I/O
	Power Input	Ground	CAN Data Bus L	CAN Data Bus H
	18AWG	18AWG	18AWG	18AWG

dimensional mounting diagram



mounting specifications

In order to mount the 482CRM, the panel opening cut out needs to fall within the minimum and maximum allowances, see the 4-switch dimensional drawings below to determine.

Recommended hole cutout: length of 4.15" (105.41mm) and a width of 1.90" (48.26mm). For each additional unit, add 1.00" (25.4mm) to the length.

Maximum panel thickness is 0.35" (8.89mm), for rocker switch assembly to lock into place.

electrical test reference J1113 / ISO11452-2

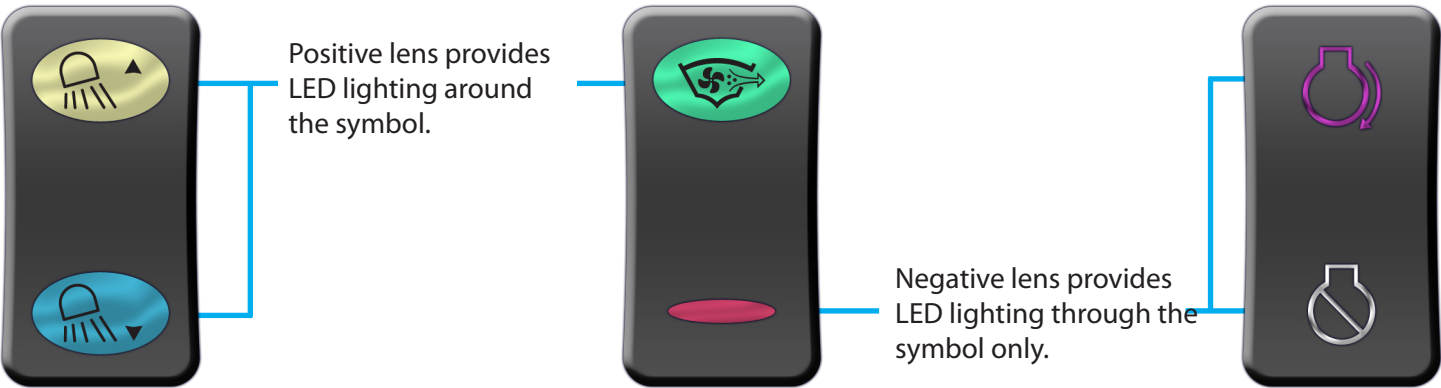
- Conducted Immunity of transients (J1113/11)
 - Performed at 12 and 24V DC
 - Test Pulse 1, 2a, 2b, 3a, 3b, 4 and 5
- Coupled Immunity – Capacitive Coupling Clamp Transients (J1113/12)
 - Performed at 12 and 24V DC
 - Pulse a and b
- Coupled Immunity – Direct Capacitor Coupling transients
 - Performed at 12V DC
 - Pulse a, b, c, and d
- Coupled Immunity – Chattering Relay (J1113/12)
 - Performed at 12V
 - 300V minimum random transient spikes
- Conducted Immunity – Electrostatic Discharge (J1113/13)
 - Performed while powered and un-powered
 - Maximum contact discharge $\pm 8\text{kV}$
 - Maximum air discharge $\pm 25\text{kV}$
- Radiated RF Emissions (J1113/41)
 - Vertical and horizontal antenna orientation
 - 0.15 MHz to 6.2MHz, 30 MHz to 200 MHz, and 200MHz to 1GHz ranges
- Radiated Immunity – ALSE (J1113/21)
 - Vertical and horizontal polarization
 - 100V/m test levels
 - 30MHz to 200 MHz and 200 MHz to 3000 MHz ranges
- Conducted Emission Frequency (J1113/41)
 - 0.15MHz to 108 MHz ranges
 - Resulting in performance to Class 1 thresholds across all broadband and narrowband measurements
- Conducted Immunity Sine wave (J1113/2)
 - 3V peak to peak level applied to positive power terminal
 - 15kHz to 250 kHz range
- Radiated Immunity Bulk Current Injection (ISO11452-2)
 - 150 mm probe position with 60mA test level
 - 20MHz to 400MHz range

ordering information










































Please consult the factory for a factory-assigned part number which will utilize the following options:

Actuator Style	rocker, toggle, locking, finger guard
Body Color	black, red, blue, green, orange, yellow
Finish	fuzzy-coat, textured
Cams	1 position momentary, 2 position momentary, 2 position stationary, 3 position stationary, 2 position stationary and 1 position momentary
Lengend Lens Type	positive lens, negative lens
Legends	see the following pages for what’s available, consult factory for custom legends






























Legends can be laser-etched into the face plate with either a positive or negative lens. You can have 2 positive lens, 2 negative lens, no lens at all (blank), or a combination there of on any switch. Contact the factory for additional legends and for custom designs. LED colors are specified via configuration utility.





























legends

SYMBOL	DESCRIPTION	CODE	SYMBOL	DESCRIPTION	CODE	SYMBOL	DESCRIPTION	CODE
	NONE	00		WATER TANK	14		RUNNING LIGHTS	28
	INDICATOR STYLE 1	01		RIGHT STABILIZER	15	 SPOTLIGHT	MASTER LIGHT SWITCH (SPOTLIGHT)	29
	INDICATOR STYLE 2	02		LEFT STABILIZER	16	 OVERHEAD	MASTER LIGHT SWITCH (OVERHEAD)	30
 WIPER	WIPER WITH TEXT	03		DEPTH SOUNDER	17	 ENTRY	MASTER LIGHT SWITCH (ENTRY)	31
	WIPER	04		BATTERIES	18	 HULL	MASTER LIGHT SWITCH (HULL)	32
 ¹	WIPER (#1)	05		LAMP 01	19	 DIMMER	MASTER LIGHT SWITCH (DIMMER)	33
	WINDSHIELD WASHER / WIPER	06		LAMP 02	20	 COCKPIT	MASTER LIGHT SWITCH (COCKPIT)	34
 WASHER	WINDSHIELD WASHER WITH TEXT	07		LAMP (BRIGHTER)	21	 BRIDGE	MASTER LIGHT SWITCH (BRIDGE)	35
	WINDSHIELD WASHER	08		LAMP (DIMMER)	22	 BILGE	MASTER LIGHT SWITCH (BILGE)	36
	REAR WINDSHIELD WASHER	09		INTERIOR LIGHTS	23		MASTER LIGHT SWITCH	37
	DEFROSTER	10		HIGH BEAM LIGHTS	24		LIGHTS	38
	HORN	11		LOW BEAM LIGHTS	25		TURN SIGNALS	39
	TRIM TAB 1	12		ANCHOR / RUNNING LIGHTS	26		VENTILATION FAN / BLOWER	40
	TRIM TAB 2	13		ANCHOR LIGHTS	27		GENERATOR	41











































legends (cont)

SYMBOL	DESCRIPTION	CODE	SYMBOL	DESCRIPTION	CODE	SYMBOL	DESCRIPTION	CODE
	FUEL	42		MUTE	56	ACCY	ACCESSORY (TEXT)	70
	ENGINE STOP	43		MUSIC	57	LOW MEDIUM HI	SPEED CONTROL (TEXT)	71
	ENGINE START	44		ANCHOR	58	TENDER HATCH	TENDER HATCH (TEXT)	72
	EMERGENCY START	45		ANCHOR w/ MAIN	59	ENGINE HATCH	ENGINE HATCH (TEXT)	73
	ENGINE PREHEAT	46		ANCHOR (UP)	60	CLOSE	CLOSE (TEXT)	74
	DRIVE TILT UP	47		ANCHOR (DOWN)	61	NAV EQUIP	NAVIGATIONAL EQUIPMENT (TEXT)	75
	BILGE PUMP	48		ANCHOR (UP/DOWN)	62	CHART LIGHT	CHART LIGHT (TEXT)	76
	BILGE PUMP (#1)	49		STOP REQUEST	63	LED	LED (TEXT)	77
	BILGE PUMP (#2)	50		HAZARD WARNING	64		ENGINE BAY LIGHTS	78
	BILGE PUMP (#3)	51	ENGINE SYNC	ENGINE SYNC (TEXT)	65	 LIGHTS OVERHEAD	LIGHT w/ TEXT "LIGHTS OVERHEAD"	79
	BILGE PUMP (#4)	52	ELECT	ELECTRIC (TEXT)	66	 COCKPIT INDIRECT	LIGHT w/ TEXT "COCKPIT INDIRECT"	80
 FWD	BILGE PUMP w/ FWD	53	AUTO PILOT	AUTO PILOT (TEXT)	67	 ENTRY INDIRECT	LIGHT w/ TEXT "ENTRY INDIRECT"	81
 AFT	BILGE PUMP w/ AFT	54	RADAR	RADAR (TEXT)	68	 HULL LIGHTS	LIGHT w/ TEXT "HULL LIGHTS"	82
	BILGE BLOWER	55	THRUSTER MAIN	THRUSTER MAIN (TEXT)	69	 OVERHEAD AFT	LIGHT w/ TEXT "OVERHEAD AFT"	83
















legends

SYMBOL	DESCRIPTION	CODE	SYMBOL	DESCRIPTION	CODE	SYMBOL	DESCRIPTION	CODE
 OVERHEAD OUTER	LIGHT w/ TEXT "OVERHEAD OUTER"	84	STEP LIGHTS	"STEP LIGHTS" (TEXT)	98	SIREN HORN	"SIREN HORN" (TEXT)	112
 OVERHEAD INNER	LIGHT w/ TEXT "OVERHEAD INNER"	85	NAV LTS	NAVIGATION LIGHTS "NAV LTS" (TEXT)	99	 AFT 2 BILGE	AFT 2 BILGE PUMP w/ TEXT "AFT 2"	113
 FWD INDIRECT	LIGHT w/ TEXT "FWD INDIRECT"	86	ANCH LTS	ANCHOR LIGHTS "ANCH LTS" (TEXT)	100	 WIPER ON	WIPER w/ TEXT "WIPER ON"	114
 AFT INDIRECT	LIGHT w/ TEXT "AFT INDIRECT"	87	WELCOME ABOARD	"WELCOME ABOARD" (TEXT)	101	 WIPER OFF	WIPER w/ TEXT "WIPER OFF"	115
BLACK	"BLACK" (TEXT)	88	PLATFORM	"PLATFORM" (TEXT)	102	 UW LIGHT	HIGH BEAM LIGHTS w/ TEXT "UW LIGHT"	116
 POWER WINDOW UP		89	STEPS	"STEPS" (TEXT)	103	 CABIN	INTERIOR LIGHTS w/ TEXT "CABIN"	117
 POWER WINDOW DOWN		90	STEPS/ PLATFORM	"STEPS / PLATFORM" (TEXT)	104	 ENG RM	INTERIOR LIGHTS w/ TEXT "ENG RM"	118
AUX	"AUX" (TEXT)	91	GRILL	"GRILL" (TEXT)	105	 DECK	LIGHT w/ TEXT "DECK"	119
 FWD BILGE	FORWARD BILGE PUMP w/ TEXT "FWD BILGE"	92	 FOG	FOG HORN w/ TEXT "FOG"	106	 HARDTOP	INTERIOR LIGHTS w/ TEXT "HARDTOP"	120
 MID BILGE	MID BILGE PUMP w/ TEXT "MID BILGE"	93	 POWER WINDOW UP / DOWN		107	 HELM LT	LAMP 2 w/ TEXT "HELM LT"	121
 AFT 1 BILGE	AFT 1 BILGE PUMP w/ TEXT "AFT 1"	94	MASTER	"MASTER" (TEXT)	108	 NAV LT	RUNNING LIGHTS w/ TEXT "NAV LT"	122
 ACC	ACCESSORY SWITCH w/ TEXT "ACC"	95	PRI/SEC	"PRI / SEC" (TEXT)	109	 ANCHOR	ANCHOR LIGHTS w/ TEXT "ANCHOR"	123
 OVERHEAD AFT	MASTER LIGHT SWITCH w/ TEXT "OVERHEAD AFT"	96	FRONT LT BAR	"FRONT LT BAR" (TEXT)	110	 PORT	BATTERIES w/ TEXT "PORT"	124
SEARCH LIGHT	"SEARCH LIGHT" (TEXT)	97	CORNER LIGHTS	"CORNER LIGHTS" (TEXT)	111	 HOUSE	BATTERIES w/ TEXT "HOUSE"	125

legends (cont)

SYMBOL	DESCRIPTION	CODE	SYMBOL	DESCRIPTION	CODE	SYMBOL	DESCRIPTION	CODE
 STBD	BATTERIES w/ TEXT "STBD"	126	 REAR BILGE PUMP	140	 RAISE LIGHT	154		
 EMERG	BATTERIES w/ TEXT "EMERG"	127	 BILGE	BILGE LIGHTS	141	 LOWER LIGHT	155	
 GEN START	ENGINE START w/ TEXT "GEN START"	128	 INDIRECT	INDIRECT LIGHTS	142	 WINDLASS ENABLE	"WINDLASS ENABLE" (TEXT)	156
 GEN STOP	ENGINE STOP w/ TEXT "GEN STOP"	129	 WHITE	WHITE OVERHEAD LIGHTS	143	 BLUE	BLUE OVERHEAD LIGHTS	157
 ELEC- TRONIC	ACCESSORY SWITCH w/ TEXT "ELECTRONIC"	130	 RED	RED OVERHEAD LIGHTS	144	 ELEC	ELECTRONIC SONAR	158
 BLOWER	BILGE BLOWER w/ TEXT "BLOWER"	131	 WHITE	WHITE SIDE MARKER LIGHT	145	 HORN	HORN w/ TEXT "HORN"	159
 HATCH	HATCH UP ARROW w/ TEXT "HATCH"	132	 RED	RED SIDE MARKER LIGHT	146	 WATER	WATER PUMP	160
 HATCH	HATCH DOWN ARROW w/ TEXT "HATCH"	133	 BRDNG	BOARDING LIGHTS	147	 SWIM PLATFORM	SWIM PLATFORM	161
 WINDLASS	ACCESSORY SWITCH w/ TEXT "WINDLASS"	134	 CRTSY	COURTESY LIGHTS	148	 SWIM PLAT- FORM	RAISE SWIM PLATFORM POSITION	162
 SWITCH DIMMER	"SWITCH DIMMER" (TEXT)	135	 UNDERWATER LIGHTS	149	 SWIM PLAT- FORM	LOWER SWIM PLATFORM POSITION	163	
 WINDLASS	ANCHOR UP 2 w/ TEXT "WINDLASS"	136	 RAISE TV POSITION	150	 MASTER	"MASTER" (TEXT)	164	
 WINDLASS	ANCHOR DOWN 2 w/ TEXT "WINDLASS"	137	 LOWER TV POSITION	151	 PRI / SEC	"PRI / SEC" (TEXT)	165	
 FWD BILGE PUMP	FWD BILGE PUMP	138	 RAISE TABLE POSITION	152	 FRONT LT BAR	"FRONT LIGHT BAR" (TEXT)	166	
 MID BILGE PUMP	MID BILGE PUMP	139	 LOWER TABLE POSITION	153	 CORNER LIGHTS	"CORNER LIGHTS" (TEXT)	167	

legends

SYMBOL	DESCRIPTION	CODE	SYMBOL	DESCRIPTION	CODE	SYMBOL	DESCRIPTION	CODE
SIREN HORN	"SIREN HORN" (TEXT)	168	HATCH DOWN	"HATCH DOWN" (TEXT)	182	HI	"HI" (TEXT)	196
LEFT FLOOD	LEFT FLOOD LIGHTS "LEFT FLOOD" (TEXT)	169	 PARALLEL	BATTERIES IN PARALLEL	183	LOW	"LOW" (TEXT)	197
RIGHT FLOOD	RIGHT FLOOD LIGHTS "RIGHT FLOOD" (TEXT)	170	HORN COMPRESSOR	"HORN COMPRESSOR" (TEXT)	184	 5	BILGE PUMP w/ TEXT "5"	198
REAR LOAD	"REAR LOAD" (TEXT)	171	 PORT ON	PORT WINDSHIELD WIPERS ON	185	PORT 	"PORT" (TEXT) w/ LIGHTED INDICATOR	199
PATIENT HEAT A / C	"PATIENT HEAT A/C" (TEXT)	172	 PORT DELAY	PORT WINDSHIELD WIPERS DELAY	186	STBD 	"STBD" (TEXT) w/ LIGHTED INDICATOR	200
BACK UP ALARM	"BACK UP ALARM" (TEXT)	173	 STBD ON	STBD WINDSHIELD WIPERS ON	187			
LEFT DOMES	"LEFT DOMES" (TEXT)	174	 STBD DELAY	STBD WINDSHIELD WIPERS DELAY	188			
RIGHT DOMES	"RIGHT DOMES" (TEXT)	175	 INT STEP	INTERIOR STEP LIGHT	189			
FLOUR LIGHTS	FLUORESCENT LIGHTS "FLOUR LIGHTS" (TEXT)	176	 PILOTHOUSE	RAISE PILOT LIGHT	190			
EXHAUST FAN	"EXHAUST FAN" (TEXT)	177	 PILOTHOUSE	LOWER PILOT LIGHT	191			
SUCTION PUMP	"SUCTION PUMP" (TEXT)	178	 UP	RAISE ANCHOR POSITION	192			
 COCKPIT	RAISE COCKPIT LIGHT	179	 DOWN	LOWER ANCHOR POSITION	193			
 COCKPIT	LOWER COCKPIT LIGHTS	180	AFT SPREADER	"AFT SPREADER" (TEXT)	194			
HATCH UP	"HATCH UP" (TEXT)	181	FWD SPREADER	"FWD SPREADER" (TEXT)	195			



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