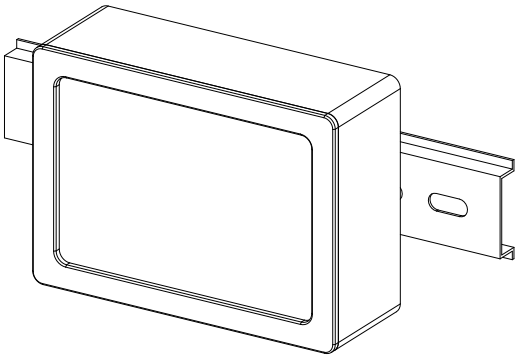
PR-MC64CH-12-RD

64-channel marquee controller

3.5" touch screen · 12 VDC · DIN rail mounting

CE RoHS

Touch-screen controller for lamp signs and marquees. It runs 8 light effects over up to 64 positions, orders the lamps with a light map built on the screen, and switches the sign on and off by schedule. It drives the 64 channels through up to 4 PR-P16I2C-4P modules daisy-chained on the I2C bus. It mounts on a 35 mm DIN rail and runs on 12 VDC.



SUPPLY	CONSUMPTION	CHANNELS	EFFECTS	DISPLAY	RAIL
12 VDC	1 A max.	64	8	3.5" touch	35 mm

FEATURES

- 64 output channels (CH 1 to CH 64) over I2C bus, with up to 4 PR-P16I2C-4P modules
- 8 effects: STEADY, CHASE, FILL, FLASH, ALTERN, BOUNCE, WAVE and RANDOM
- 9 speed levels (500 to 100 ms per step) and direction of travel
- Light map: links each lamp to its channel with automatic scan
- Daily ON/OFF timer, schedules may run across midnight
- 3.5" capacitive touch screen with glass cover lens
- 12 VDC supply, 1 A max.; compatible with the QYR-60-12 power supply
- Integrated DIN clip with sliding latch and release tab

ORDERING INFORMATION

CODE	DESCRIPTION
PR-MC64CH-12-RD	64-channel marquee controller, 12 VDC, DIN rail. Includes 2-pole plug-in terminal.

Accessories

CODE	DESCRIPTION
PR-P16I2C-4P	16-channel I2C expansion module. Daisy-chained over USB-C; up to 4 per controller.
QYR-60-12	DIN rail power supply, 12 VDC / 5 A (60 W). Powers up to 4 controllers.

MODEL CODE

PR	–	MC	–	64CH	–	12	–	RD
Product line		Marquee controller		Number of channels		12 VDC supply		DIN rail mounting

SYSTEM

QYR-60-12 supply
230 VAC → 12 VDC

→ 12 VDC

PR-MC64CH-12-RD
Effects, map, schedule

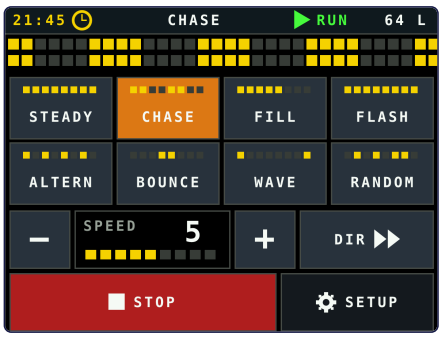
→ I2C · USB-C

PR-P16I2C-4P × 4
16 channels each, daisy-chained

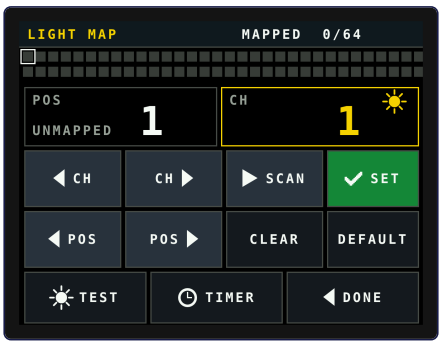
→ Contacts

Lamps
Positions 1 to 64

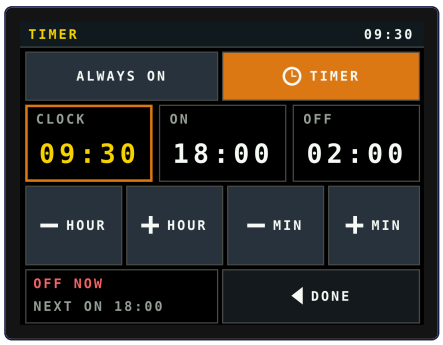
USER INTERFACE



MAIN
Daily operation: effect, speed, direction, RUN/STOP.

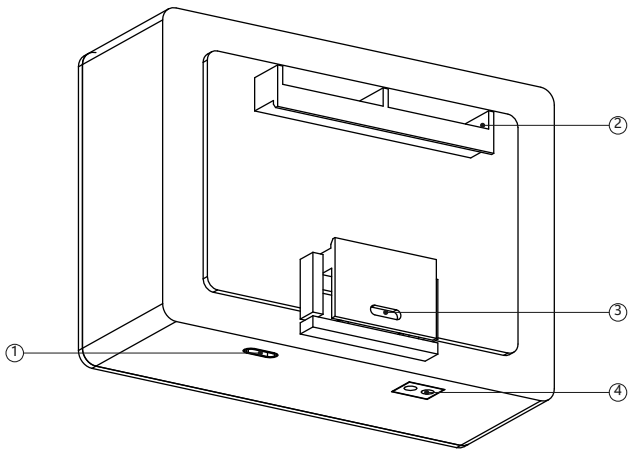


SETUP
Commissioning: light map, scan and channel test.



TIMER
Clock and daily ON/OFF schedule or manual mode.

CONNECTIONS



1. USB-C receptacle — I2C bus
2. Fixed upper DIN hook
3. DIN rail clip (release tab)
4. 2-pole screw terminal, 5.08 mm pitch — 12 VDC / GND

Fig. 1 · Power and data connectors (bottom face)

EFFECTS

EFFECT	DESCRIPTION
STEADY	All lights on, no movement.
CHASE	Blocks of 4 lights run around the sign (classic marquee).
FILL	Lights come on one by one until the sign is full, then restart.
FLASH	The whole sign blinks.
ALTERN	Odd and even lights alternate.
BOUNCE	A block of 4 lights runs to the end and comes back.
WAVE	Two blocks start at both ends and meet in the middle.
RANDOM	Each light on or off at random on every step.

TECHNICAL DATA

Values at 25 °C ambient and 12 VDC supply, unless otherwise noted.

Power supply	
Rated voltage	12 VDC
Operating range	10.8 … 13.2 VDC (12 V ±10 %)[1]
Maximum consumption	1 A (12 W)
Inrush current	< 3 A peak, < 2 ms
Input protection	Reverse polarity, 1.5 A resettable fuse, transient suppressor
Internal regulation	12 V → 5 V on interface PCB
Recommended supply	QYR-60-12 (up to 4 controllers)
Display and interface	
Type	3.5" TFT, capacitive touch, landscape
Active area	73.44 × 48.96 mm
Visible window	98 × 66 mm
Cover lens	Glass, 104.2 × 72.1 mm, R6
Smallest button	8 × 8 mm
Interface language	English
Functions	
Output channels	64 (CH 1 … CH 64)
Effects	8 (see effects table)
Speed	9 levels: 500 … 100 ms per step (50 ms per level)
Direction	Forward (POS 1 → 64) or reverse
Light map	64 positions; 0.7 s per channel scan; all-channel TEST
Timer	Daily ON/OFF in 5 min steps; 24 h clock
Firmware	2.2
Data link	
Connector	USB-C, bottom face
Expansion bus	I2C over USB-C, daisy-chained; up to 4 PR-P16I2C-4P modules
Frame for third-party stages	Asynchronous serial, 115 200 baud, 8N1
Frame	10 bytes: 0xAA start, 64 state bits, checksum
Frame rate	Up to 10 per second
Firmware loading	Programming cable or microSD card
Environment	
Operating temperature	0 … +50 °C
Storage temperature	−20 … +70 °C
Relative humidity	10 … 90 %, non-condensing
Altitude	≤ 2000 m
Degree of protection	IP20
Ventilation	9 slots in the top face, natural convection
Mechanical	
Dimensions (w × h × d)	116 × 84 × 40.5 mm
Overall depth with DIN clip	53.4 mm
Rail width	7 modules of 17.5 mm
Mounting	35 × 7.5 mm DIN rail (EN 60715)
Housing	ABS/PC, 2.5 mm wall; front frame with 4 snap-fit pegs
Weight	≈ 190 g
Power connection	
Terminal	2-pole plug-in, screw, 5.08 mm pitch
Wire size	0.2 … 2.5 mm² (24 … 12 AWG)
Strip length	7 mm
Tightening torque	0.5 … 0.6 N·m
Standards	
Electromagnetic compatibility	Directive 2014/30/EU: EN IEC 61000-6-2 (immunity), EN IEC 61000-6-4 (emission)
RoHS	Directive 2011/65/EU and (EU) 2015/863
Supply	SELV, supply with reinforced insulation

[1] Covers the full adjustment range of the QYR-60-12 power supply (12 V ±10 %).

OUTPUT FRAME

To integrate third-party relay stages, the controller also outputs the channel states as a serial frame: one frame on every effect step, on every change in SETUP and when the show stops.

BYTE	CONTENT
0	Start marker 0xAA
1 … 8	Channel states, 64 bits. Byte 1 bit 0 = CH 1 … byte 8 bit 7 = CH 64. 1 = relay on
9	Checksum: sum of bytes 1 to 8, low 8 bits

SITUATION	FRAME (HEX)
All off (STOP)	AA 00 00 00 00 00 00 00 00 00
CH 1 and CH 3 on	AA 05 00 00 00 00 00 00 00 05
All 64 on (TEST)	AA FF FF FF FF FF FF FF FF F8
SETUP identifying CH 12	AA 00 08 00 00 00 00 00 00 08

The light map is applied inside the controller: the frame already carries physical channels. The relay stage must discard a frame with a failed checksum and keep the previous state.

POWER SUPPLY SIZING

CONTROLLERS	TOTAL CURRENT	LOAD ON QYR-60-12
1	1 A	20 %
2	2 A	40 %
3	3 A	60 %
4	**4 A**	**80 %**

One QYR-60-12 supply powers up to 4 controllers at 80 % of its rated current.

SAFETY

- SETUP and TEST switch real lamp channels on. Before mapping or enabling the timer, check that the lamp installation is complete and nobody is working on the sign.
- Supply only from a 12 VDC SELV source. Mains voltage must not reach the controller.
- Installation by qualified personnel, inside a closed enclosure.

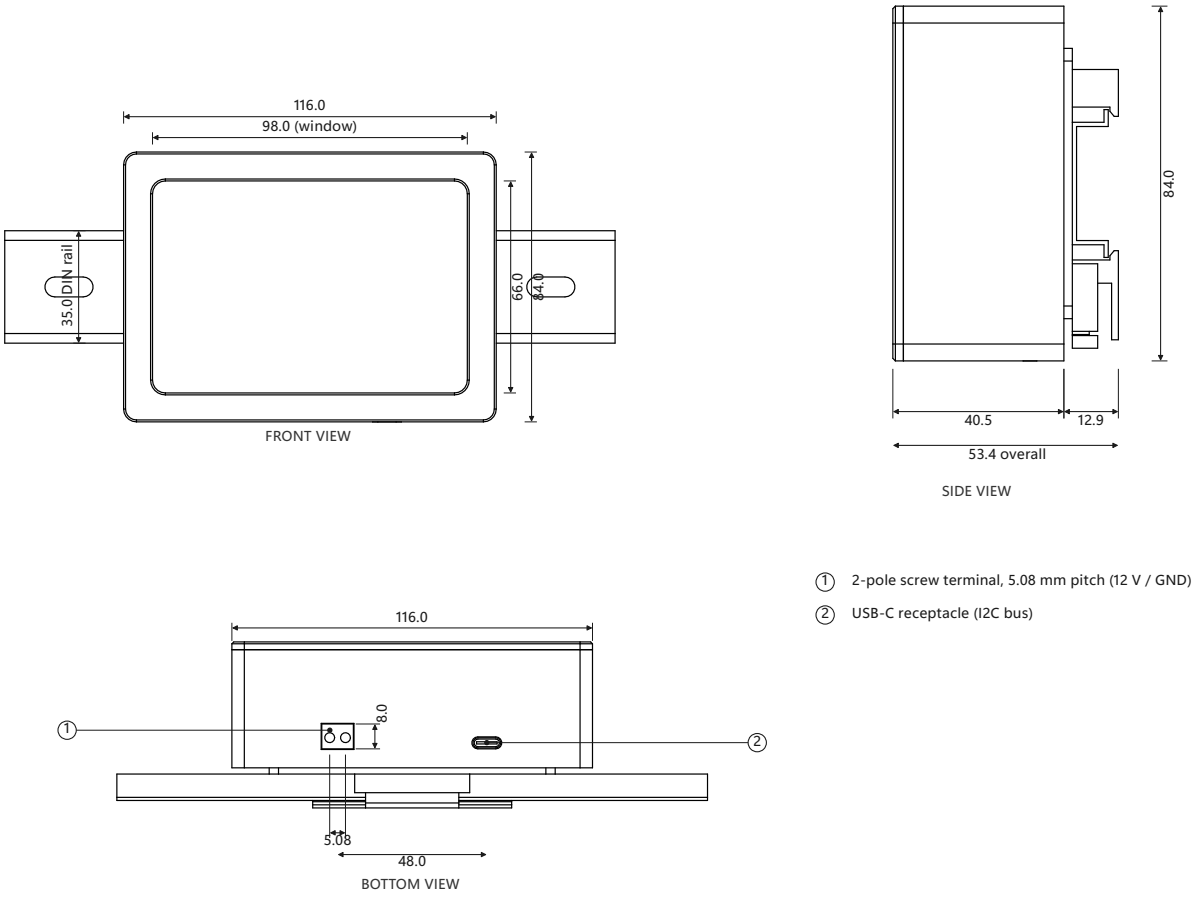
FIRMWARE NOTES

In firmware 2.2 the light map, schedule and clock are kept in RAM: after a power cut the controller starts with the 1:1 map, CHASE, speed 5, forward, ALWAYS ON and the clock at 00:00. Record the map and schedule on the commissioning sheet.

RELATED DOCUMENTS

- PR-MC64CH-12-RD User Interface Manual (firmware 2.2)
- QYR-60-12 datasheet · recommended power supply

DIMENSIONS

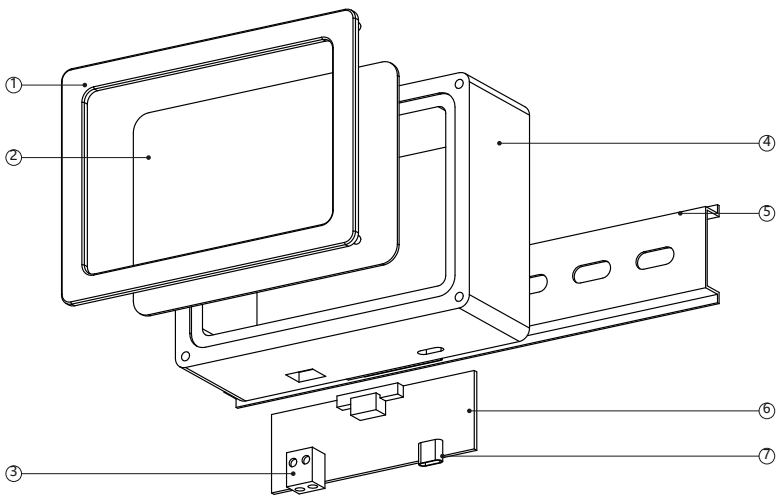


① 2-pole screw terminal, 5.08 mm pitch (12 V / GND)

② USB-C receptacle (I2C bus)

Fig. 2 · Dimensions in mm

EXPLODED VIEW



① Front bezel frame (ABS/PC), 4 snap-fit pegs

② 3.5" touch display with cover lens (104.2 × 72.1 mm)

③ 2-pole terminal block, 12 V / GND

④ Main housing with integrated DIN clip (ABS/PC)

⑤ 35 mm DIN rail (EN 60715)

⑥ Interface PCB (12 V → 5 V regulator, FFC to display)

⑦ USB-C receptacle (I2C bus)

INSTALLATION

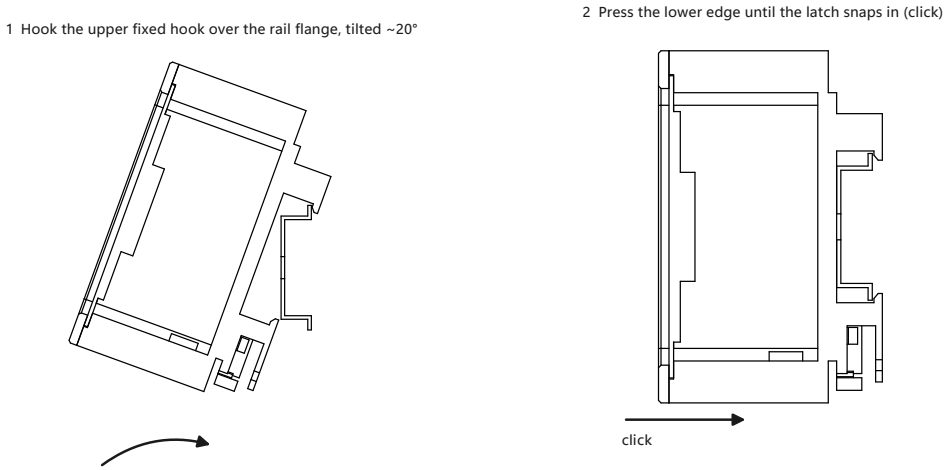


Fig. 3 · Mounting on 35 mm DIN rail (EN 60715)

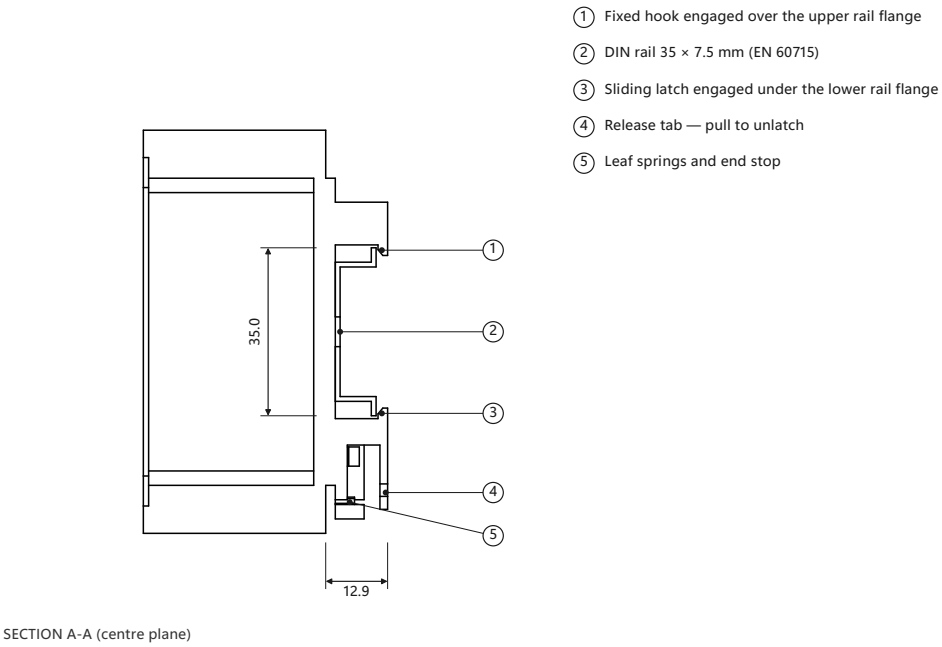


Fig. 4 · Side section: clip engaged on the rail

- Hook the fixed upper hook over the rail flange, with the unit tilted about 20°.
- Press the lower edge until the sliding latch snaps in (click).
- To remove: pull the release tab with a flat screwdriver and lift the lower edge.
- Connect +12 V and GND to the plug-in terminal on the bottom face, observing polarity.
- Connect the first PR-P16I2C-4P to the USB-C connector and the rest in a daisy chain (max. 4). This USB-C carries the I2C bus: do not connect other USB devices.
- Leave at least 20 mm clear above the top face for ventilation.