

PR electronic



Version 20210805

PR MK2-/MK4-*pro* Scent-System Manual

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PR MK2-/MK4-*pro* Scent-System Manual

Introduction

Thank you for choosing a PR electronic product. With the systems of the **PR-Scent** © series you get devices according to the latest state of the art. Due to the robust construction, the most modern circuit technology and extensive control options, reliable and fail-safe operation is guaranteed in any environment.

Please note the following information to ensure safe operation of the devices. Improper handling can lead to personal injury and / or damage to property, in which case the guarantee is void!

Caution!

- It is essential to observe the information in the section "Regulations for safe operation".
- Use the devices only for the specified purpose.
- Protect the devices from dust, moisture and other liquids.
- Always pull out the power plug before opening the device. Never operate the devices when they are open.
- The device should only be opened by authorized specialist personnel.

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Start up

The device / system is suitable for operation on alternating current with different voltages and frequencies (wide range input). The device / system requires a protective conductor connection.

Caution! The cartridge container is warmed up during operation.

Hints:

Before switching on for the first time, remove the transport paper from the dispensing unit and insert the fragrance cartridge (see section "Changing the fragrance cartridge").

Safe Operation Regulations:

1. The device / system may only be used for its intended purpose.
 2. All persons entrusted with the operation of the device must know and follow the instructions for use and the safety instructions in this manual.
 3. Improper interventions in the device / system can result in damage to people and device technology.
 4. All relevant laws and regulations for accident prevention are to be observed.
 5. The safety instructions, maintenance and service cycles and operating instructions must be observed.
 6. The repair and maintenance of the system may only be carried out by authorized specialist personnel. These employees must be familiar with the device technology and fully understand all the necessary safety measures.
- If the device / system is not in operation for a longer period of time, it should be switched off and disconnected from the mains.
9. If the device / system does not function properly, it must be taken out of service. The device / system may then only be put back into operation after being checked by authorized specialist personnel.

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Changing cartridges

When the service life of the fragrance cartridge is reached, or if a different fragrance direction is required, the corresponding fragrance cartridge must be changed.

To do this, proceed as follows:

1. Switch off the machine and allow the dispensing units to cool down.
2. Loosen the 4 thumb screws on the respective fragrance outlet and remove the grille.
3. Carefully pull out the slide with the fragrance cartridge as far as it will go.
4. Change the fragrance cartridge.
5. Carefully push the slider back again
6. Fasten the grille again with the thumb screws.

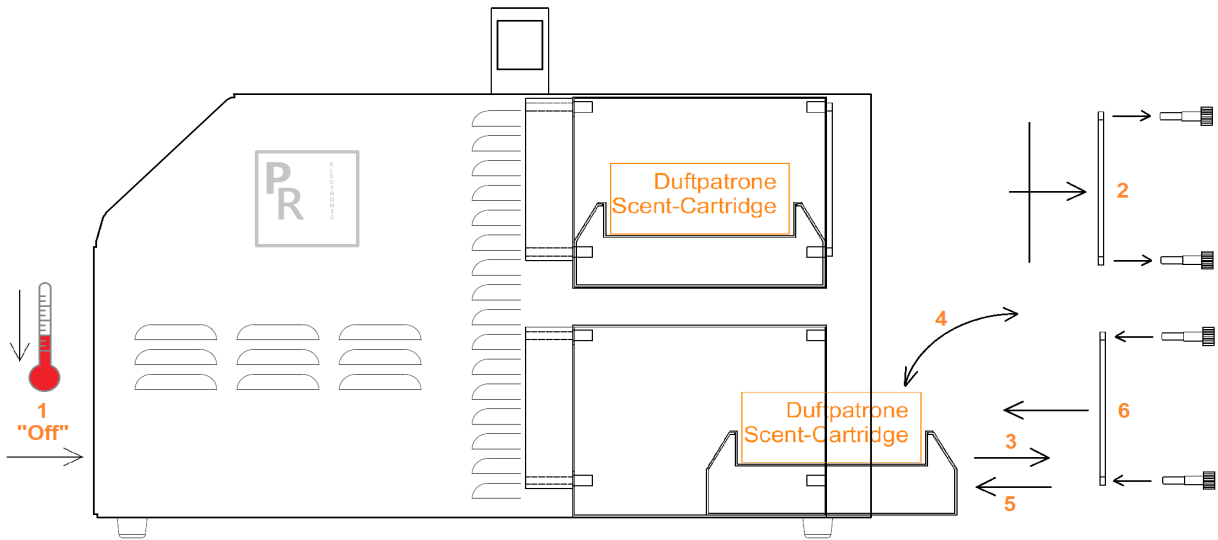
Hints:

If the cartridge container is dirty, carefully clean it after removing the fragrance cartridge with glass cleaner or methylated spirit and household towels.

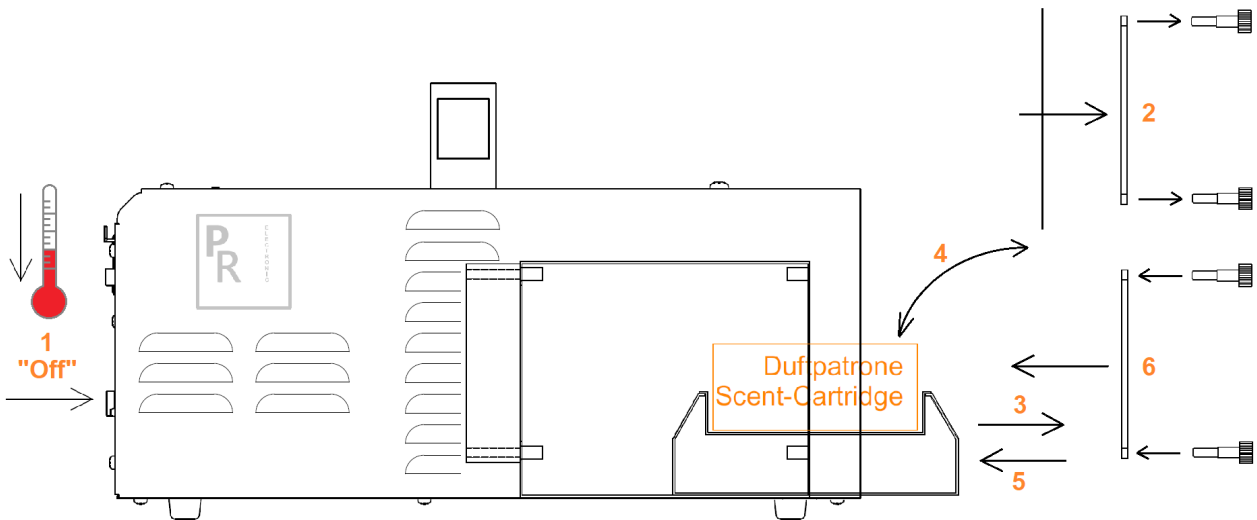
If the removed fragrance cartridge has not yet reached the end of its service life, it can be kept until it is used again. Preferably in the original packaging. Seal these airtight, label them if necessary and store in a cool, dry place.

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Procedure for changing the fragrance cartridge:



Steps to take when changing the MK4 *pro* fragrance cartridge



Steps to take when changing the MK2 *pro* fragrance cartridge

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Handling of scents and cartridges

Hints:

The fragrance cartridges are delivered in an airtight and fragrance-impermeable packaging.

Please do not open the packaging long before using the fragrance cartridge!

If packaging is damaged, it is imperative that it be resealed airtight or, if necessary, pack the fragrance cartridge and the damaged packaging in a plastic bag. Then close these again airtight if possible.

In the expanded packaging, the fragrance cartridges can be stored for approx. One year from delivery. To do this, store the fragrance cartridges in a dark and cool place.

Handling

The highly concentrated fragrance cartridges of the MK-*pro* series are designed to enable the user to use the selected fragrance as simply and as long as possible.

For this purpose, the fragrances are bound in a special, highly porous carrier material and released through the gentle, controlled action of heat. The fragrances are then released into the room by the adjustable fan.

Usually, fragrances should be used in a subtle way. Too high a concentration of fragrances in the air can possibly irritate the visitor after a long period of time and thus cause an undesired effect.

Therefore, fragrances should be used sparingly, especially in environments in which visitors linger for a long time.

A slightly different case is when a certain effect is to be created or supported very quickly. E.g. during a multimedia show or during a film showing for different scenes. In such a situation, the fragrance should be emitted immediately in a highly concentrated manner and then turned back again after a short time or switched off completely. The warm-up can also be activated beforehand separately from the fan.

Of course there are all situations between these two extreme applications in which the fragrance should then be controlled accordingly.

If several fragrances are to be used relatively one after the other, it must be ensured that the previous fragrance has "vanished" again when the new fragrance is to take effect. This is best achieved by appropriate ventilation (air conditioning) in the demonstration room. Various neutralization scents and air cleaners are available to neutralize existing, even undesirable, scents. In some situations such a neutralizer can be used between 2 successive, desired fragrances in order to obtain a better separation of the fragrance impressions.

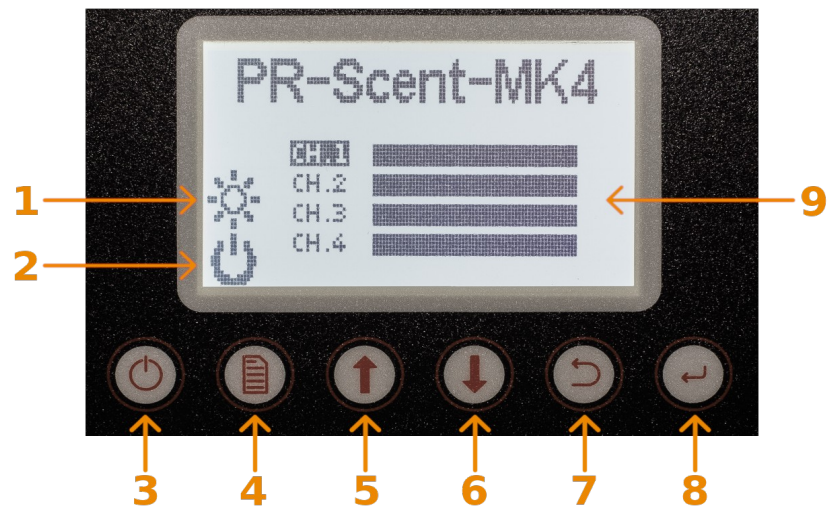
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Settings and programming in Menu Display

1 Overview

Controls:

1. Light-mode state
2. System state (on/off)
3. "On/off" button
4. "Menu" button
5. "Up" button
6. "Down" button
7. "Back" button
8. "Enter" button
9. Channel State



2 Basic Operation

2.1 Change of System State (on/off)

By Pressing the "on/off" button (3), the system state (2) is changed.

2.2 Adjust Scent control level

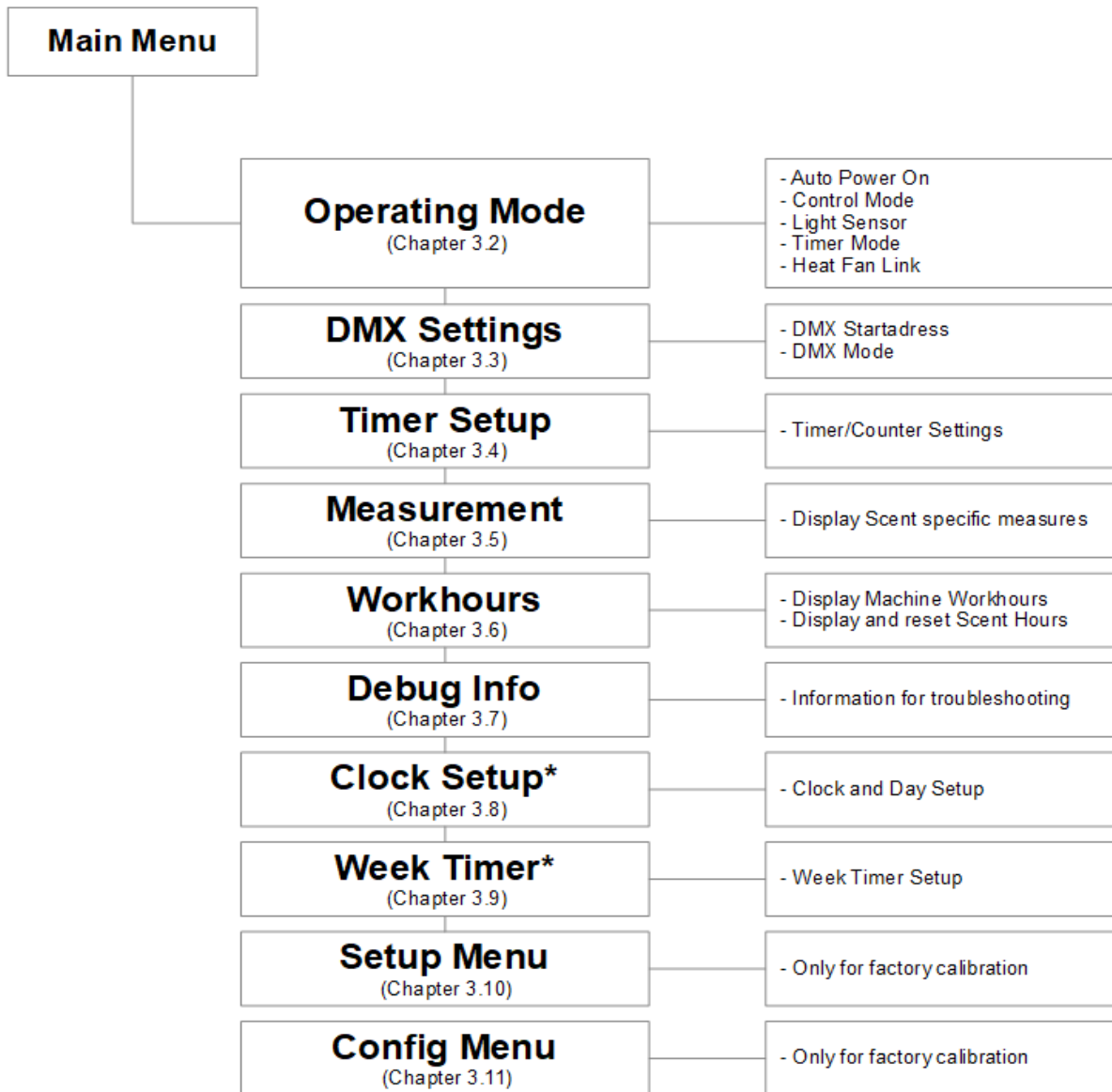
A channel can be selected by pressing "up" and "down". To adjust the selected channel press "enter" (8), change the level with "up" and "down".

To exit press "back" (7).

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3 Menu

3.1 Menu diagram



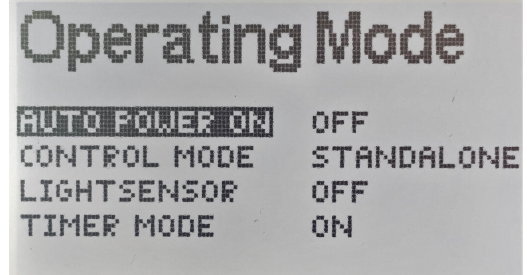
*Only with optional RTC (Real Time Clock)

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3.2 Menu "Operating Mode"

3.2.1 Auto Power On:

If enabled, the system starts automatically to suspend the scent if AC-Power is switched on.



3.2.2 Control mode:

Standalone	local control
DMX control	DMX512 control
RS232	serial control using Multipin I/O (see chapter 4.1)
Analog In	analogue 0-10V control using Multipin I/O (see chapter 4.1)
Week Timer	Week Timer control

3.2.3 Light Sensor:

OFF	Light sensor control disabled
DAY	Light sensor active in daylight
NIGHT	Light sensor active in darkness

3.2.4 Timer Mode:

OFF	Timer/Counter disabled
ON	Timer/Counter normal Mode
INV	Timer/Counter inverted Mode

3.2.5 Heat Fan Link

Unlinks or links fan and heat function, for separated or linked adjustments

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3.3 Menu "DMX Settings"

3.3.1 DMX Adress:

Set DMX Startadress with "up" and "down" button

DMX Settings

```
DMX ADDRESS: 001
DMX MODE: 8 Ch.
```

3.3.2 DMX Mode:

1 Ch. Mode

all Channels (Temperature and Fan Speed) are controlled by 1 DMX Channel

4 Ch. Mode

Channels are controlled independently by 4 DMX Channels

DMX Channel 1: Temperature and Fan Speed Scent 1

DMX Channel 2: Temperature and Fan Speed Scent 2

DMX Channel 3: Temperature and Fan Speed Scent 3

DMX Channel 4: Temperature and Fan Speed Scent 4

8 Ch. Mode

Channels are controlled independently by 8 DMX Channels

DMX Channel 1: Temperature Scent 1

DMX Channel 2: Fan Speed Scent 1

DMX Channel 3: Temperature Scent 2

DMX Channel 4: Fan Speed Scent 2

DMX Channel 5: Temperature Scent 3

DMX Channel 6: Fan Speed Scent 3

DMX Channel 7: Temperature Scent 4

DMX Channel 8: Fan Speed Scent 4

3.4 Menu "Timer Setup"

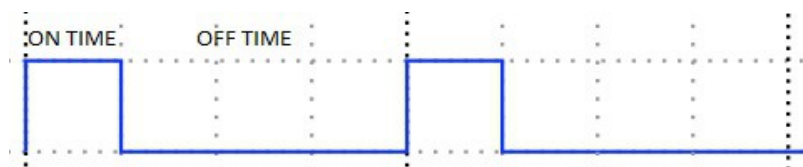
On Time/Off Time

Use UP/DOWN Key to adjust, Enter to select next.

Timer Setup

```
TIMER VALUE 00H 00M 14S
CYCLE COUNT 0
ON TIME 00H 00M 10S
OFF TIME 00H 00M 30S
MAX CYCLES INFINITE
```

Timing Scheme:



Max Cycles

Setup the Cycle Limit. System is turned off when Cycle Count reaches Max Cycles. Set to INFINITE to disable.

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3.5 Menu "Measurement"

3.5.1 Display of scent specific measures for each Scent.

```
SCENT 1:          SCENT 2:
FAN:             0% FAN:             0%
HEATER:          0% HEATER:          0%
TEMP: 40.7°C     TEMP: 41.3°C
SCENT 3:          SCENT 4:
FAN:             0% FAN:             0%
HEATER:          0% HEATER:          0%
TEMP: 43.3°C     TEMP: 41.3°C
```

3.6 Menu "Workhours" (Only with RTC Option)

3.6.1 Display Workhours:

Display of machine work hours

3.6.2 Display and reset scent hours:

Overview of scent usage hours and reset function when cartridge is changed.

```
Workhours
OPERATINGHOURS      0
HOURS SCENT 1       0
HOURS SCENT 2       0
HOURS SCENT 3       0
HOURS SCENT 4       0
```

3.7 Menu "Debug Info"

3.7.1 Information for troubleshooting:

In-depth information for troubleshooting.

3.8 Menu "Clock Setup"(optional)

Set Clock Time and Day

```
Clock Setup
SET TIME    07:37
SET DAY:    FR
```

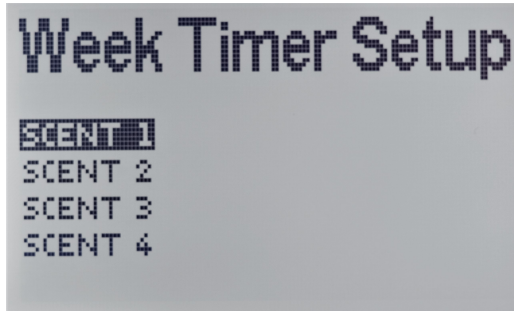
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3.9 Menu "Week Timer"(optional)

Setup of 4 Week Timers for each Scent

(Use UP/DOWN Button to change, ENTER to step through Setup Points)

Values are stored in Memory, each Time ENTER is pressed.



3.10 Menu "Setup Menu"

Only for factory calibration

3.11 Menu "Configuration Menu"

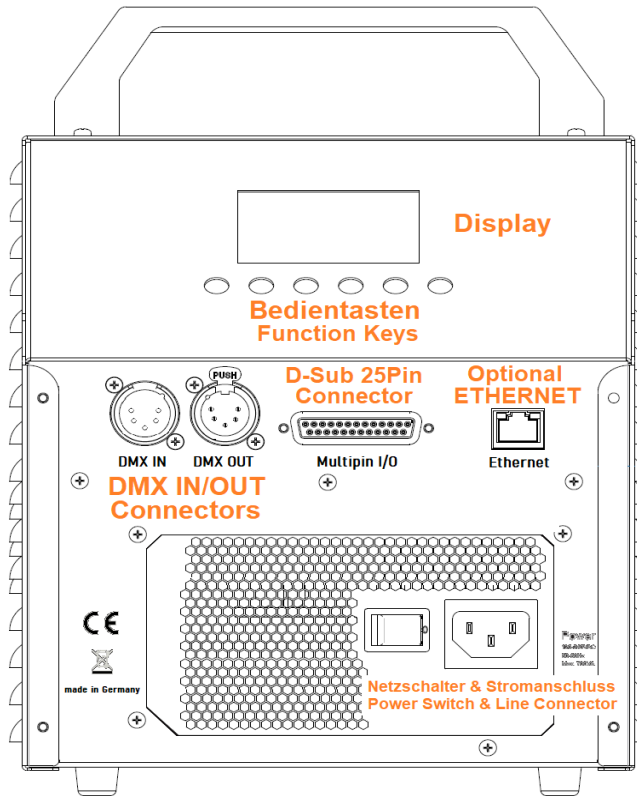
Only for factory calibration

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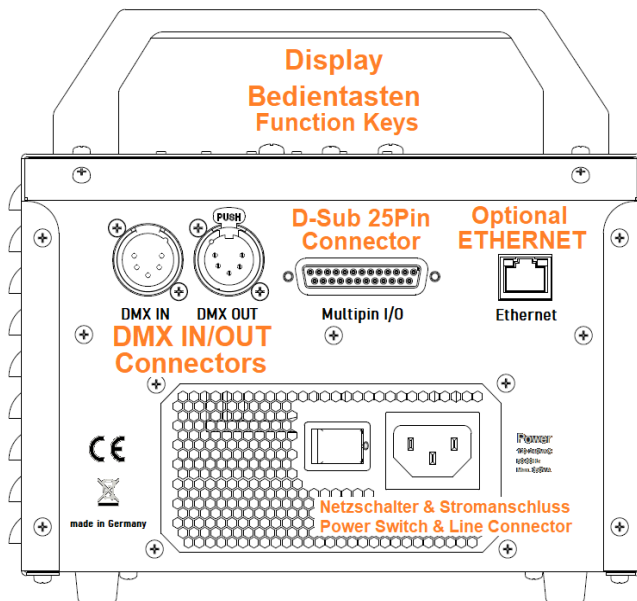
Technical documentation

Connectors:

MK4 Series



MK2 Series



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4 Pinout

4.1 Multipin I/O

25 Pin D-Sub

Pin 2	RS232 Transmit
Pin 3	RS232 Receive
Pin 7	RS232 GND
Pin 9	+12VDC aux supply (max. 250mA)
Pin 10	Analog In 1 (0-10VDC)
Pin 11	Analog In 2 (0-10VDC)
Pin 12	Analog In 3 (0-10VDC)
Pin 13	Analog In 4 (0-10VDC)
Pin 14	External Lightsensor +
Pin 15	External Lightsensor -
Pin 16	External Lightsensor GND
Pin 23	Fault Output (Open Collector max. 50mA)
Pin 24	Analog GND
Pin 25	Analog GND

4.2 DMX

5 Pin XLR

Pin 1	GND
Pin 2	Data -
Pin 3	Data +
Pin 4	n.c.
Pin 5	n.c.

4.3 Ethernet (optional)

RJ45 Standard Ethernet Connector

4.3 Line Connector

IEC-60320 C14 line power connector (male) with PE contact

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Technical Data

System:	MK4	MK2	Remote Unit
Control Modes	Stand-alone mode, DMX512, RS232, LAN (optional), Ambient Light sensor (Day on/Night on), auto on, Timer operation, RTC-clock operation (optional) 0-100% intensity control (independent per fragrance) LC-Display for easy setup and manual control	Stand-alone mode, DMX512, RS232, LAN (optional), Ambient Light sensor (Day on/Night on), auto on, Timer operation, RTC-clock operation (optional) 0-100% intensity control (independent per fragrance) LC-Display for easy setup and manual control	-
Display :	Display to show the operating status and to control / program the machine	Display to show the operating status and to control / program the machine	-
Internal control	Microprocessor based control	Microprocessor based control	Via scent machine with remote option
Usable fragrance cartridges	PR-Scent fragrance cartridges size 50, 100 and samples	PR-Scent fragrance cartridges size 50, 100 and samples	PR-Scent fragrance cartridges size 50, 100 and samples
Internal light sensor (ON / OFF invertible)	Fragrance ON: >100Lux Fragrance OFF: <80Lux	Fragrance ON:> 100Lux Fragrance OFF: <80Lux	-
Cable connections	Mains connection (IEC-60320 C14) DMX input / output 5-pin XLR male / female Multipin I / O D-Sub 25-pin Network (optional) RJ45 network	Mains connection (IEC-60320 C14) DMX input / output 5-pin XLR male / female Multipin I / O D-Sub 25-pin Network (optional) RJ45 network	8-Pin Speaker-Connector (Cable-Type / Female) Cable Length: 15m standard 25m max. (optional)
Additionally with the remote option	2/4 connections for remote module 8-Pin Speaker-Connector (Chassis-Type / Male)	2/4 connections for remote module 8-Pin Speaker-Connector (Chassis-Type / Male)	Permanently connected cable with 8-pin speaker connection (female)
Operating ambient temperature (Ta) range	0°-40°C	0°-40°C	-10°-50°C
Supply voltage	100-240V AC, 50/60Hz	100-240V AC, 50/60Hz	-
Line current	5-8A	4-6A	-
Power consumption (max/average)	600W / 100W	350W / 75W	-
Dimensions(L1/L2xWxH) L1/L2x w/wht Connectors	385/435x210x270mm	335/385x210x230mm	165x100x110mm
Net weight	approx. 10,6Kg / 23.4lbs	6,5kg / 14.3lbs	(with 15m cable)

We reserve the right to make changes to technical specifications for improvement at any time!
As of June 2021

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Declaration of Conformity

To the following EC standards :

Electromagnetic Compatibility 2014/30/EC

Voltage limited Equipment 2014/35/EC

Product Series : PR-Scent MKXX-Series: Type: MK2-professional ("pro"),
MK2-+- pro, MK2-remote, MK2-economy, MK4-pro,
MK4-remote, MK4-hybrid, EPD-Z1, EPD-Z2

are constructed and manufactured in conformity with the council directives on the approximation to the laws of the EEC member states.

The sole responsible manufacturer to which the above declaration is related :

PR electronic e.K.
Im Steinenbaechle 3
D-73569 Eschach
GERMANY

Harmonized standards used :

EN55103-1:2009, EN55103-2:2009, EN61000-3-2:2014, EN61000-3-3:2013

EN60335-1:2012, EN60335-2-82:2003, EN62233:2008

IEC 335 (VDE 700)

Complete technical documentation can be delivered by PR electronic e.K.
Installation / Service manual is shipped together with corresponding product.

Eschach, July 2021

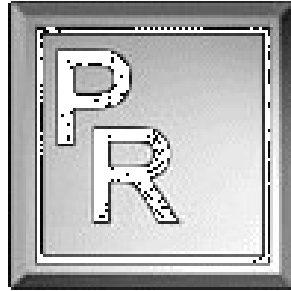
PR electronic e.K.



Dipl.Ing.(FH) Richard Pollak

PR MK2-/MK4-*pro* Scent-System Manual

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