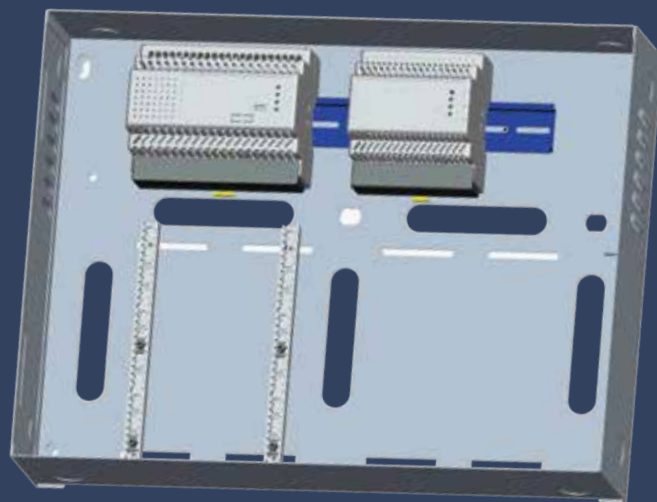


NEW ERA

of Power System for Access Control System

Small Changes for Big Differences

Better battery solution
for backup battery



MPM Series

adding fixiblity for your control box

miTEC

DIN-Rail 7U Switching Power Supply with Int. Lithium-ion Battery Pack

Key Features:

- Detachable Design allow user to replace batteries easily
- Compatible non-protected 18650 Lithium -ion rechargeable cell
- Provide Up to approx. 50 mins Backup Time (with 2600mAh Battery)
- Simplified Wiring and Space Saving Design
- Fully Input and Output Protections
- Safety Double Isolation
- LED Indicator for AC Power ON, Normal DC Output and Battery Charging



MODEL	PSM40-12B/18650
OUTPUT	
Rated Voltage (VDC)	12.5 V
Voltage Range (VDC)	12.25~12.75 V
Rated Current (A)	3.0
Current Range (A)	0~3.0
Battery Recharge Time	Approx. 7 hours to fully recharge a completely exhausted battery at 25°C ambient temperature
Battery Discharge Time	Approx. 11 mins at full load condition, measurement based on capacity 2000 mAh battery
Battery Charger Charging Current (A)	0.2~0.3
Rated Power (W)	40 max.
Ripple and Noise (mVp-p) *2	120 max.
Rise Time (ms)	≤ 80 at full load
Hold Up Time (ms)	≥ 50 at full load
INPUT	
Rated Voltage (VAC)	200~240
Voltage Range (VAC)	180~264
Rated Frequency (Hz)	50 / 60
Frequency Range (Hz)	47 ~ 63
Current (A)	≤ 0.6
No Load Power Consumption (W)	≤ 0.5
Energy Efficiency (%)	≥ 84 at full load
PROTECTION	
AC Input	Current fuse protection
Output Short-Circuit	Hiccup mode occur and auto-recovery without damage when fault conditions are removed.
Output Over Voltage (V)	15 ~ 18
Output Over Current (A)	3.3 ~ 3.9
Over Temperature (°C)	95 ± 5 (output shutdown, reset by recycle AC input)
Battery Low-Voltage (V)	8.0 ~ 10.0
ENVIRONMENT SPECIFICATION	
Operating Temperature Range (°C)	-20 ~ +40
Operating Humidity (%)	5 ~ 90 RH
Storage Temperature °C /Humidity %	-25 ~ +70 / 5 ~ 90 RH
SAFETY	
Safety Standard	Compliance to CE /LVD
Withstand Voltage	Input to Output: 3KVAC
Isolation Resistance	Input to Output: >20MΩ / 500 VDC at 25°C / 70% RH
EMC *3	
Emission	Compliance to EN55022 Class B
Immunity	Compliance to EN55024, EN61000-4-2,3,4,5,6,8,11
LED INDICATOR	
AC / DC	Lit when AC input normal and DC output normal
BATT	Lit when the battery is charging
OTHERS	
Dimensions (mm)	122 (W) x 65 (H) x 99 (L) 7U DIN-Rail
Weight (g)	With batteries 430 approx. / Without batteries 295 approx.

DIN-Rail Mount Switching Power Supply with Ext. Lithium-ion Battery Pack

Key Features:

- Using 18650 Lithium-ion Rechargeable Cell
- Fully Input and Output Protections
- Safety Double Isolation
- Lightweight but Powerful
- LED Indicator for AC Power ON, Normal DC Output and Battery

MODEL		PSM70-12LB	PSM70-24LB	PSM100-12LB	PSM100-24LB
MAIN OUTPUT					
Rated Voltage (VDC)		12.5	25.0	12.5	25.0
Voltage Regulation (VDC)		12.25~12.75 V	24.6~25.4 V	12.25~12.75 V	24.6~25.4 V
Rated Current (A)		4.8	2.4	7.4	3.7
Rated Power (W)		66		100	
Ripple and Noise (mVp-p) *2		100 Max.	120 Max.	100 Max.	120 Max.
No. of Output Port (Way)		1		2	
Rise Time (ms)		≤ 80 at full load			
Hold Up Time (ms)		≥ 50 at full load			
CHARGER OUTPUT					
Charging Voltage (VDC)		12.75		25.5	
Charging Current (mA)		400 max.	300 max.	600 max.	300 max.
Maximum Battery Charging Time (hr.)	LMB26-125200	14.5	N/A	11.5	N/A
	LMB26-1210400	28.5	N/A	23	N/A
	LMB26-242600	N/A	9.5	N/A	9.5
	LMB26-245200	N/A	19	N/A	19
INPUT					
Reted Voltage (VAC)		200~240			
Voltage Range (VAC)		180~264			
Rated Frequency (Hz)		50 / 60			
Current (A)		≤1.0		≤1.2	
No Load Power Consumption (W)		≤1.0		≤2.0	
Energy Efficiency (%)		≥ 85 at full load			
PROTECTION					
AC Input		Current fuse protection			
Output Short-Circuit		Output hiccup mode occur and auto-recover without damage when fault conditions are removed.			
Output Over Voltage (V)		15~18	29~33	15~18	29~33
Output Over Current (A)		4.8~7.2	2.6~3.6	8.1~11.1	4.1~5.6
Over Temperature (°C)		120 ± 5 (Output hiccup mode occur and auto-recover without damage when the temperature resume normal.)			
Battery Pack Polarity Reverse Connection		√	√	√	√
ENVIRONMENT SPECIFICATION					
Operating Temperature Range (°C)		-10 ~ +40			
Operating Humidity (%)		5 ~ 90 RH			
Storage Temperature °C /Humidity %		-25 ~ +70 / 5 ~ 90 RH			
SAFETY					
Safety Standard		Compliance to EN 62368-1			
Withstand Voltage		Input to Output: 3KVAC			
Isolation Resistance		Input to Output: >20MΩ / 500 VDC at 25°C / 70% RH			
EMC *3					
Emission		Compliance to EN55032 Class B			
Immunity		Compliance to EN55024, EN61000-4-2,3,4,5,6,8,11			
LED INDICATOR					
AC / DC		Lit when AC input normal and DC output normal			
BATT		Lit when the battery is charging, Off when the battery has been fully recharged or AC input fault			
OTHERS					
Dimensions (mm)		88 (W) x 93.5 (H) x 65 (L) 5U DIN-Rail		122 (W) x 93.5 (H) x 65 (L) 7U DIN-Rail	
Weight (kg)		0.30 approx.		0.42 approx.	

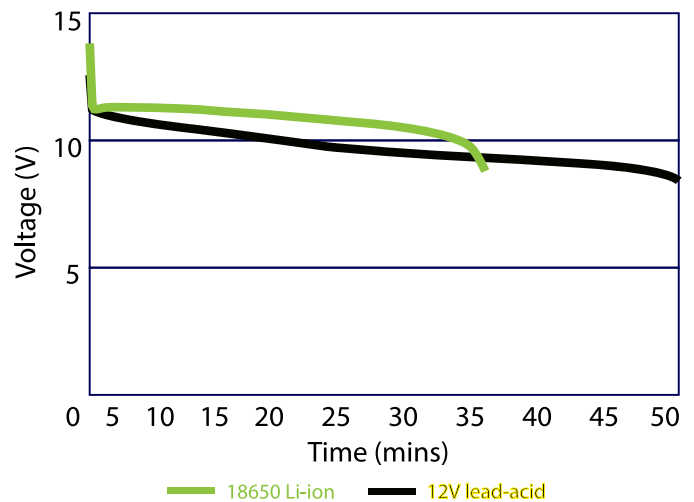
Specification of LMB Series Lithium-ion Battery Pack



MODEL		LMB26-125200	LMB26-242600	LMB26-1210400	LMB26-245200
OUTPUT					
Rated Voltage (VDC)		12.75	25.5	12.75	25.5
Rated Current (A)		5.2	2.6	10.4	5.2
Nominal Capacity (mAh)		5200	2600	10400	5200
Battery Charging Time (hr.) *4	PSM70-12LB	1.1	N/A	2.2	N/A
	PSM70-24LB	N/A	1.1	N/A	2.2
	PSM100-12LB	0.5	N/A	1.4	N/A
	PSM100-24LB	N/A	0.5	N/A	1.4
PROTECTION					
Over Charging Voltage (V)		≥12.75	≥25.5	≥12.75	≥25.5
Discharge Cut-off Voltage (V)		9.0 approx.	18.0 approx.	9.0 approx.	18.0 approx.
Over Load (A)		5.5~7.8	2.7~3.9	9.9~15.6	5.5~7.8
Over Temperature (°C)	Charging	-10 ~ 50 (Charge interrupt when the temperature of batteries out of range.)			
	Discharging	>70 (Output shutdown, reset by the temperature resume normal.)			
Output Short-Circuit		Output shutdown, reset by unplug output connector and make sure fault conditions are removed.			
OTHERS					
Dimensions (mm)		88 (W) x 65 (H) x 93.5 (L) 5U DIN-Rail		175 (W) x 61 (H) x 93.5 (L) 10U DIN-Rail	
Weight (kg)		0.38 approx.		0.75 approx.	

Why Change from Lead Acid to Lithium?

- Lighter Weight, Smaller Size,
- Release more Space for other use
- Easier Installation & transportation
- Longer life circle
- Better BackUp Preformance
- Better Sustainable & Environment

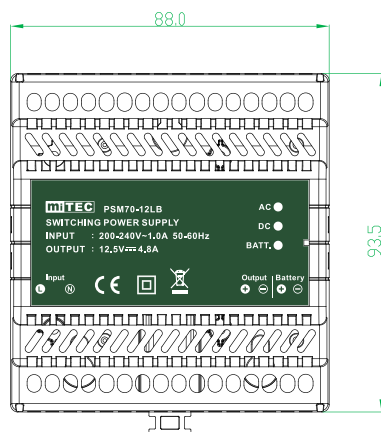
Battery discharge curve_2A
(18650 x 3-cell vs 12v lead-acid)



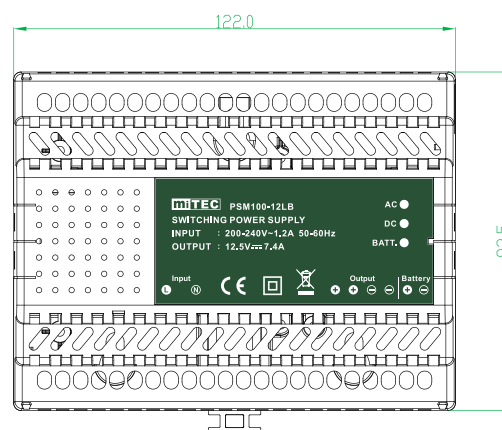
Battery	Lead Acid (3AH)	Lithium Battery 18650 x 3 peice (2.6AH)
		
Weight	1.35 kg	0.045kg x 3 = 0.27 kg
Size (cm)	13.5 (W) x 6.2 (H) x 6.7 (L)	6.5 (H) x ø 1.9 x 3 peice
Space (cm³)	560	55
life circle	about 200 cycles	about 500 cycles
Capacity	3000 mAh	2600 mAh
Sustainablitiy	Difficult on disposing	Easy to recycle
Environment	Lead material is toxic	more than 80% Lithium Battery could be recycle

Outline Dimensions (mm)

DIN-Rail Switching Power Supply with Lithium Battery Charger

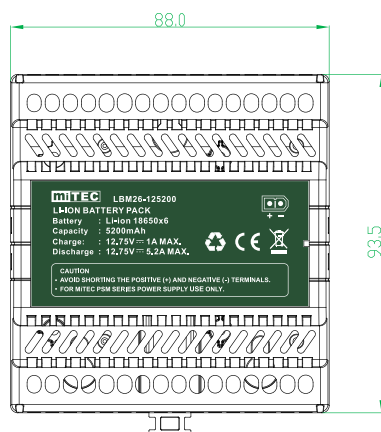


PSM70-12LB & PSM 70-24LB
5U DIN-Rail

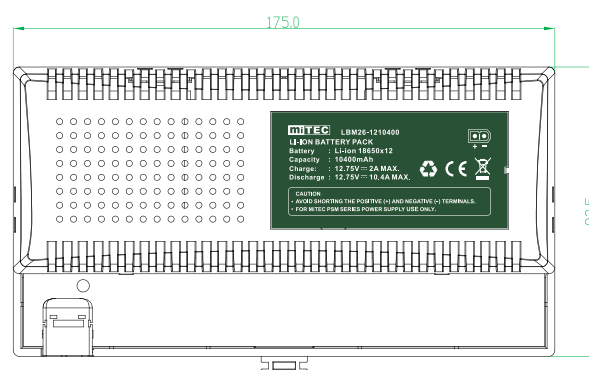


PSM100-12LB & PSM 100-24LB
7U DIN-Rail

Lithium Battery Pack

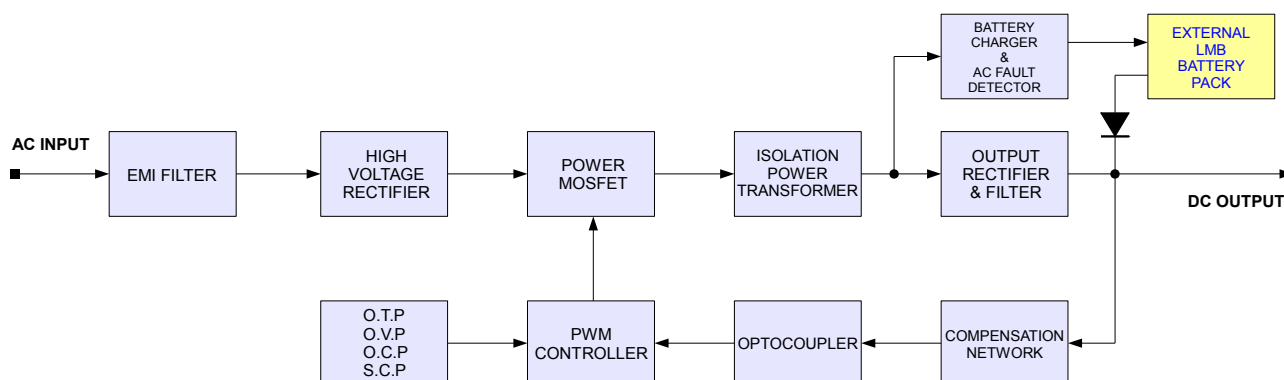


LBM26-125200 & LBM26-242600
5U DIN-Rail



LBM26-1210400 & LBM26-245200
10U DIN-Rail

System Block Diagram



Notes:

- These drawings and specifications are the property of Wo Hing Radio Co., Ltd and should not be reproduced or copied, or using as the basis for the manufacture or sale of apparatus or devices without permission.
- Peak to Peak voltage measured at 20MHz bandwidth by using a 10 μ F electrolytic capacitor in parallel with a 0.1 μ F ceramic capacitor at the point of output terminals.
- The power supply is considered a component which will be installed into a end-equipment product. The end-equipment product should be re-confirmed that it still meets EMC directives.
- Battery discharge time is measured in room temperature (25°C). The time will decrease depending on the ambient temperature.
- If the power supply is not to be used for a long time, press the "Battery Reset Button" before storing.
- Design and specifications are subject to change without notice.

MPM Series

Why Change ?

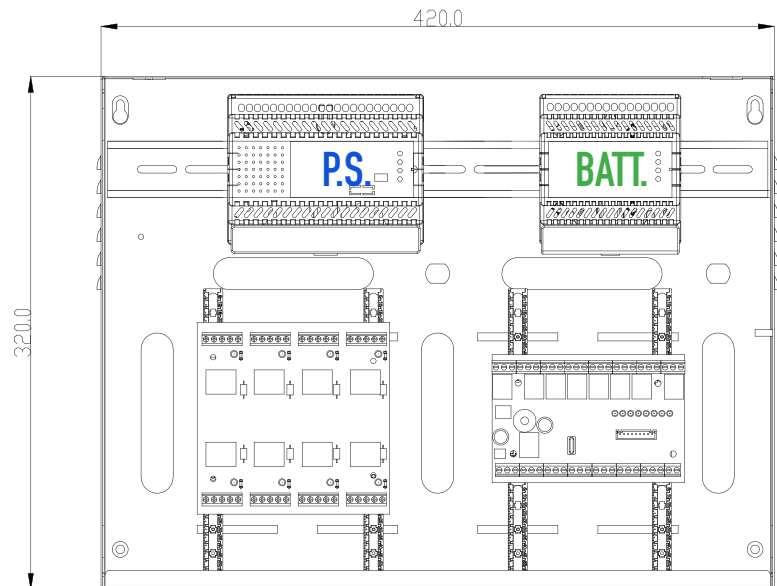
- Easy Installation
- NO More Drilling onsite
- More Effective use of Space
- Easy Adjustable but Strong Structure
- Keep the box Tidy and Clean
- More Fixibity on placing the PCB

New way to Fit in your Control Box

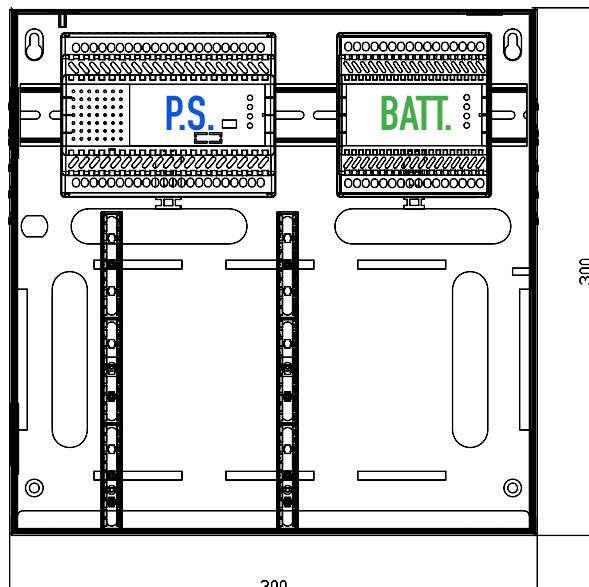
MPM-320x420x80

Design to Fit in

- PSM100-24LB (7U DIN-Rail)
- LMB26-125200 (5U DIN-Rail)
- MPM series mounting module
- Control Board Size
Width: 40~290 mm
Height : Max. 180 mm



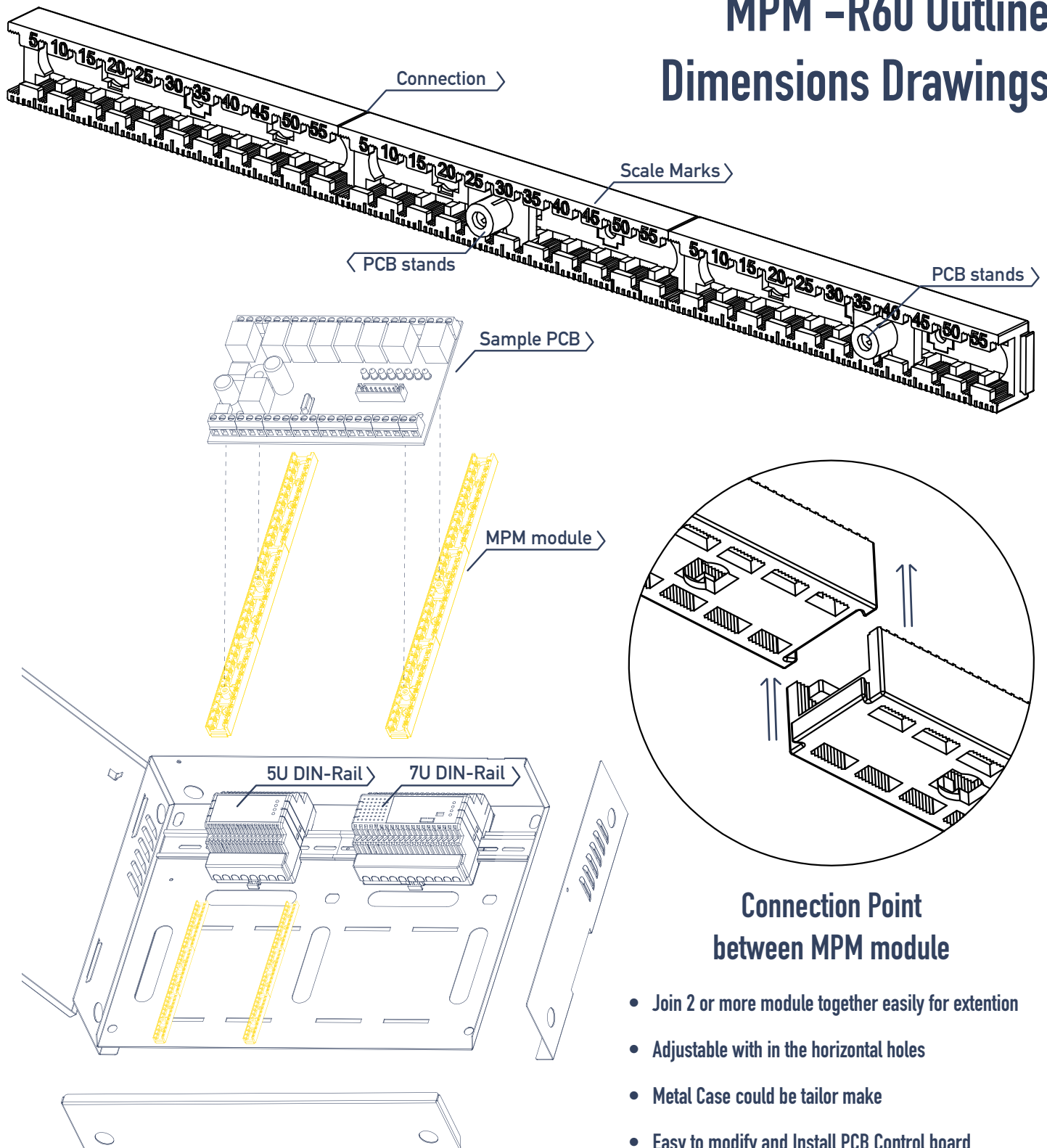
MPM-300x300x80



Design to Fit in

- PSM100-12LB (7U DIN-Rail)
- LMB26-242600 (5U DIN-Rail)
- MPM series mounting module
- Control Board Size
Width: 40~200 mm
Height : Max. 180 mm

MPM -R60 Outline Dimensions Drawings



Connection Point between MPM module

- Join 2 or more module together easily for extension
- Adjustable with in the horizontal holes
- Metal Case could be tailor make
- Easy to modify and Install PCB Control board

Specification	MPM - R60
Minimum PCB	15mm ²
Immunity	Compliance to EN55024, EN61000-4-2,3,4,5,6,8,11
Surface Resistivity	10 ¹⁴ Ω
Volume Resistivity	10 ¹⁵ Ω.cm
Dimensions (mm)	60 (W) x 12 (H) x 10 (L)
Maximum weight	3 KG
Material	Nylon
Color	White
Fire resistance	94V-0

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