



INDUSTRIAL BATTERY CHARGER FAMILY

INDEX

- ABOUT US
- RBC PRODUCT FAMILY
- RBCM PRODUCT FAMILY
- LVCM PRODUCT FAMILY

ABBREVIATIONS

- RBC : RECTIFIER BATTERY CHARGER (COMPLETE MACHINE)
- RBCM : RECTIFIER BATTERY CHARGER CONTROL MODULE
- LVCM : LVD AND DROPPER CONTROL MODULE
- LVD : LOW VOLTAGE BATTERY DISCONNECTOR
- DROPPER : LOAD VOLTAGE STABILIZER
- HMI : Human-Machine Interface

PESS POWER ELECTRONICS SYSTEM SOLUTIONS LIMITED COMPANY

- As a PESS company, our main goal is to be a power electronics R&D company known all over the world. We are proud to serve with our team who are experts in their fields, who can use theoretical and practical knowledge together, and who have experience in every field related to power electronics.
- Working with universities, being an example of the university-industry co-operation model and adapting the literature knowledge to the practical field constitutes the base of our understanding.
- By partnering with the world's leading companies, we offer our customers premier pricing and 100 percent reliability. With our wide network of partner customers (South Asia, South America, Russia, UAE, etc.), we would like to introduce our industrial power electronics products to the whole world.

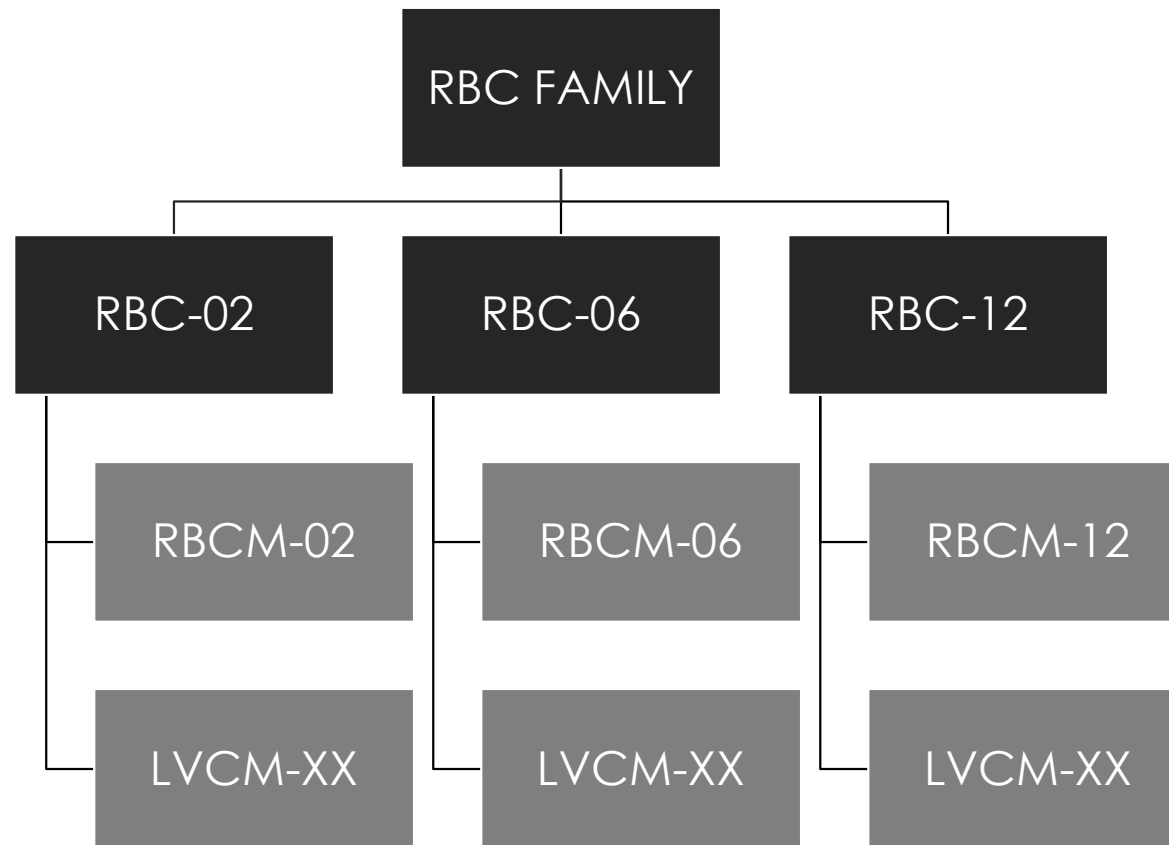


PESS POWER ELECTRONICS SYSTEM SOLUTIONS LIMITED COMPANY

OUR PRODUCTS

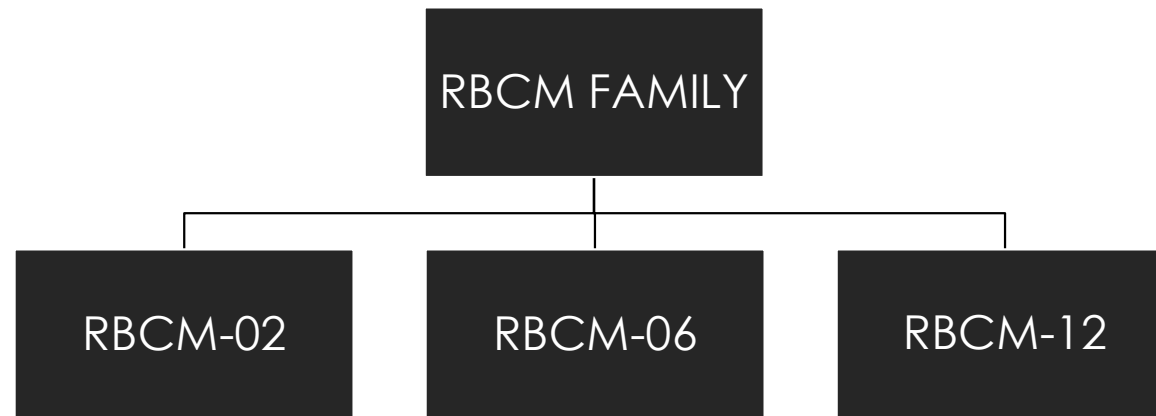


RBC Industrial Battery Charger Family



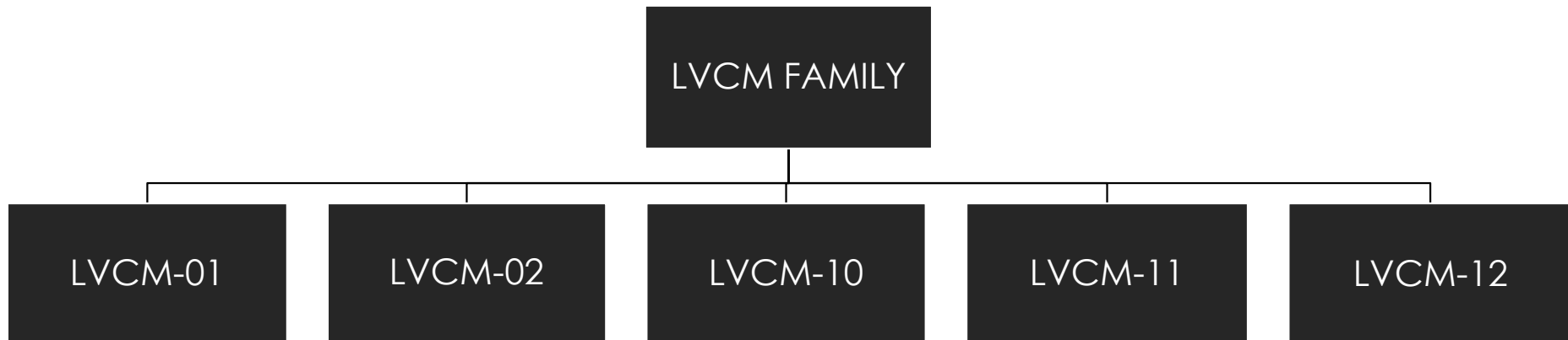
LVCM Module is optional and it has a several different type configuration. Please check LVCM Module Family page

RBCM POWER ELECTRONICS CONTROL MODULE FAMILY



- RBCM-02 1 PHASE 2 PULSE POWER ELECTRONICS CONTROL MODULE
- RBCM-06 3 PHASE 6 PULSE POWER ELECTRONICS CONTROL MODULE
- RBCM-12 3 PHASE 12 PULSE POWER ELECTRONICS CONTROL MODULE

LVCM LVD AND DROPPER CONTROL MODULE FAMILY



- LVCM-01 NO LVD DISCONNECTOR WITH 1 DROPPER STAGE MODULE
- LVCM-02 NO LVD DISCONNECTOR WITH 2 DROPPER STAGE MODULE
- LVCM-10 1 LVD DISCONNECTOR WITH NO DROPPER STAGE MODULE
- LVCM-11 1 LVD DISCONNECTOR WITH 1 DROPPER STAGE MODULE
- LVCM-12 1 LVD DISCONNECTOR WITH 2 DROPPER STAGE MODULE

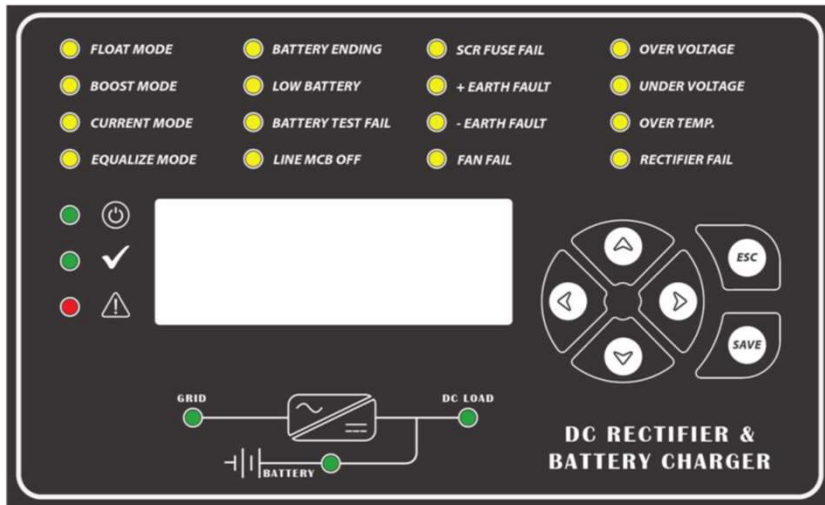
RBC Industrial Battery Charger Family Common Features

KEY FEATURES

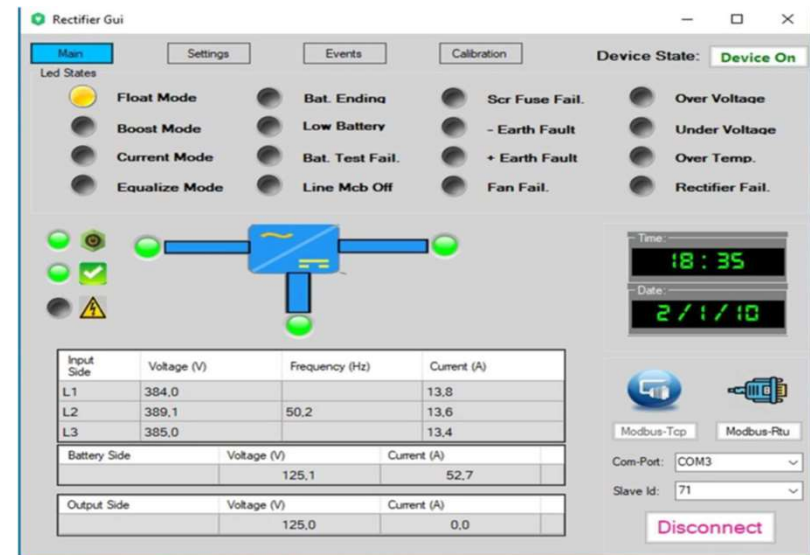
- Galvanically isolated input transformers, secure isolation input to output.
- Designed for 12+ years of continues operation with appropriate maintenance.
- Full compatibility with lead-acid and nickel-cadmium batteries, sealed or vented.
- Easy maintenance and easy re-produce thanks to compact designed power electronic control module.
- Default wireless load sharing algorithm, default modbus through rs485 communication
- Default measurement calibration software from HMI on PC, and default battery room temperature compensation algorithm.

RBC Industrial Battery Charger Family Common Features

FRONT PANEL



HMI (PC)



RBC Industrial Battery Charger Family Common Features

RBC FAMILY OUTPUT TYPES

OUPUT VOLTAGE VS OUTPUT CURRENT				
24 VDC	48 VDC	110 VDC	220 VDC	360 VDC
10A	10A	10A	10A	10A
20A	20A	20A	20A	20A
30A	30A	30A	30A	30A
50A	50A	50A	50A	50A
60A	60A	60A	60A	60A
100A	100A	100A	100A	100A
150A	150A	150A	150A	150A
200A	200A	200A	200A	
250A	250A	250A		



RBC Industrial Battery Charger Family Comparison

	CURRENT THD	POWER FACTOR	EFFICIENCY
RBC-02 1 ϕ 2 PULSE	< 60 %	> 0.85	> 80 – 95
RBC-06 3 ϕ 6 PULSE	< 35 %	> 0.90	> 80 – 95
RBC-12 3 ϕ 12 PULSE	< 10 %	> 0.93	> 80 – 95

RBC-02 1 PHASE 2 PULSE INDUSTRIAL BATTERY CHARGERS



RBC-02 1 PHASE 2 PULSE INDUSTRIAL BATTERY CHARGER

TECHNICAL SPECIFICATIONS

INPUT

AC INPUT VOLTAGE (LINE TO NEUTRAL)	110/120/215/220/230/240 VAC ± 15%
FREQUENCY	50 -60 Hz ± 5%
OUTPUT STABILITY (FLOAT MODE)	SINGLE ± 1% PARALEL ± 2%
VOLTAGE RIPPLE	<1% rms (without battery)
CURRENT LIMITATION	5% to 100%

OUTPUT

NOMINAL DC OUTPUT	24 V	48 V	110 V	220 V
OUTPUT VOLTAGE RANGE	16-35 V	32-70 V	72-158 V	144-310 V
OUTPUT STABILITY (FLOAT MODE)	SINGLE ± 1% PARALEL ± 2%			
VOLTAGE RIPPLE	<1% rms (without battery)			
CURRENT LIMITATION	5% to 100%			

BATTERY

BATTERY TYPE	LEAD ACID	Ni-Cd
AUTONOMY	FEW MINUTES TO HOURS	
BATTERY CURRENT LIMITATIONS	LEAD ACID 0.1C	
	Ni-Cd 0.2C	
BATTERY ROOM TEMPERATURE COMPENSATION	0.04V/1°C PER 12V BATTERY @± 25°C	

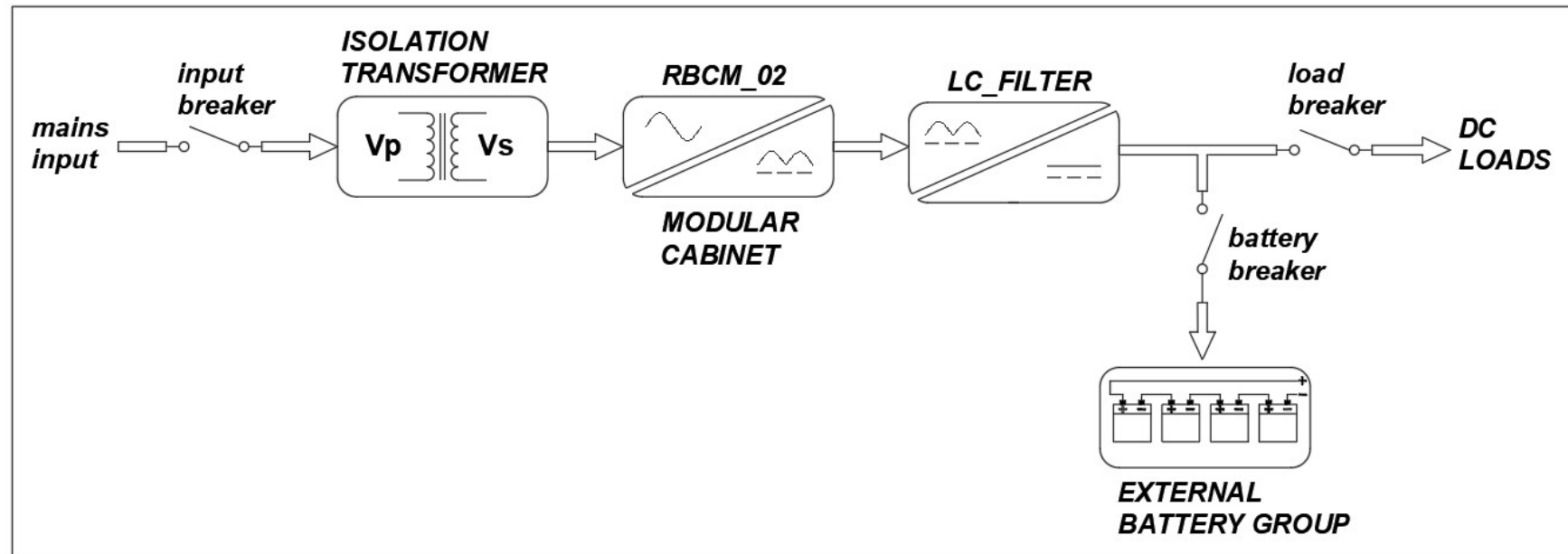
GENERAL DATA

Dimension	Depends on the project
IP protection	IP20 (IEC60529)
Cabinet color	RAL7035 or special
Cooling	Forced with FANs
Efficiency	80-95% (depends on ratings)
Noise (1m from unit)	60-70% (depends on ratings)
Operating temperature	0-40 C degree
Storage temperature	-20 to 70 C degree
Relative humidity	<95 non-condensing
Operating altitude	1000m max. without derating

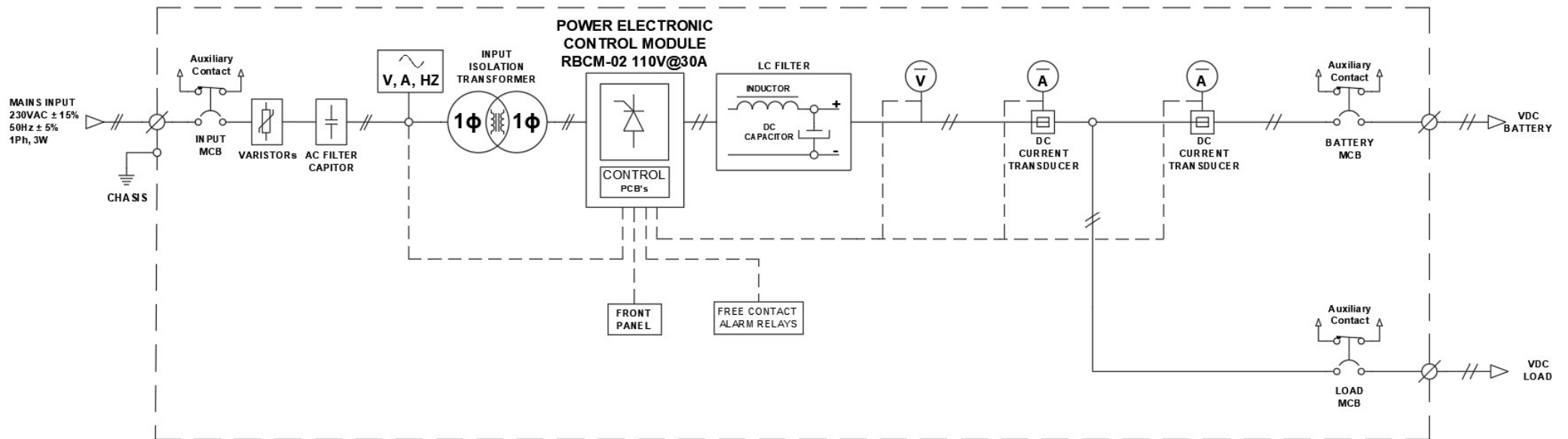
RBC-02 1 PHASE 2 PULSE INDUSTRIAL BATTERY CHARGER

DRAWINGS AND CIRCUITS

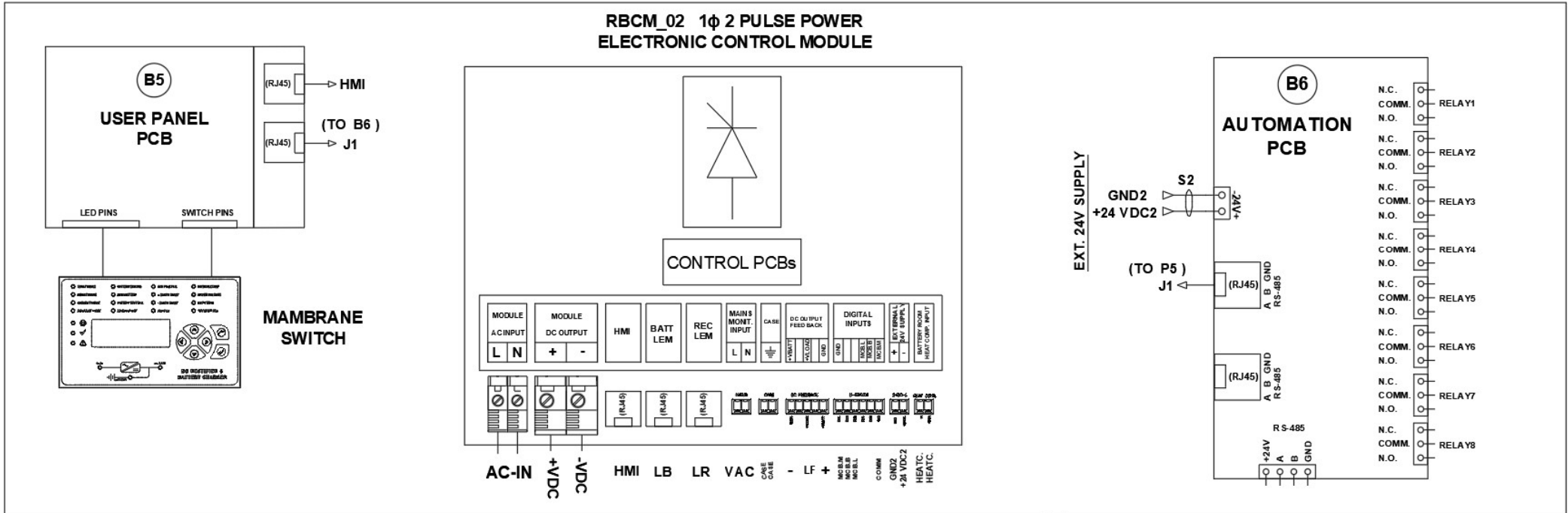
RBC-02 1 ϕ 2 PULSE INDUSTRIAL BATTERY CHARGER BLOCK DIAGRAM



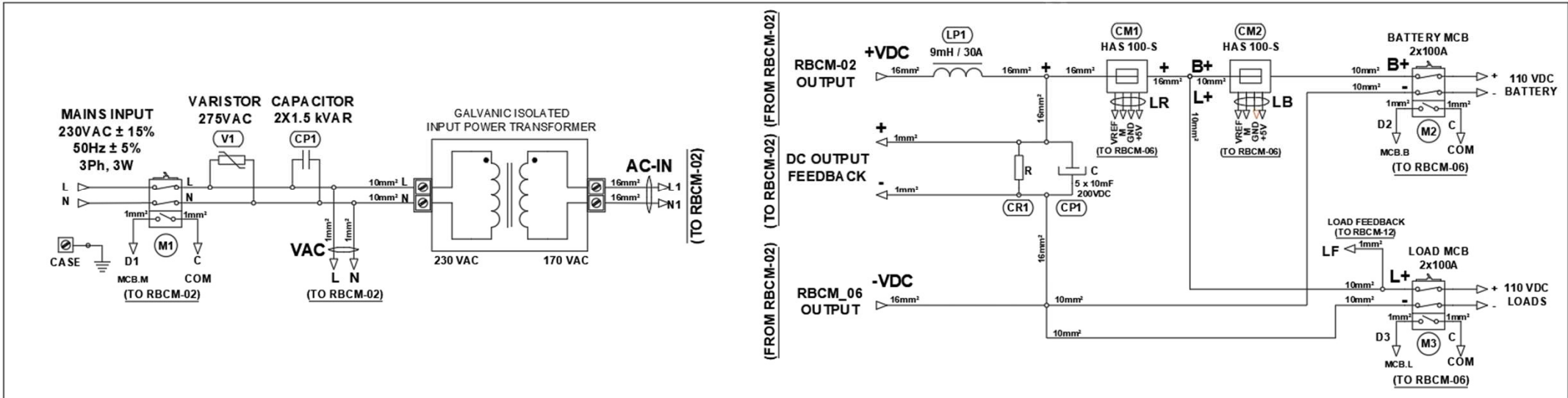
RBC-02 1 ϕ 2 PULSE INDUSTRIAL BATTERY CHARGER SINGLE LINE DIAGRAM



RBCM-02 1φ 2 PULSE POWER ELECTRONIC CONTROL MODULE BLOCK DIAGRAM



RBC-02 1φ 2 PULSE INDUSTRIAL BATTERY CHARGER CABINET WIRING DIAGRAM



RBC-06 3 PHASE 6 PULSE INDUSTRIAL BATTERY CHARGERS



RBC-06 3 PHASE 6 PULSE INDUSTRIAL BATTERY CHARGER

TECHNICAL SPECIFICATIONS

INPUT

AC INPUT VOLTAGE (LINE TO LINE)	220/240/380/400/440/480 VAC ± 15%
FREQUENCY	50 - 60 Hz ± 5%
DPF (cos θ)	>0.9 (AT FULL LOAD)
POWER FACTOR (COS ϕ)	>0.85(AT FULL LOAD)

OUTPUT

NOMINAL DC OUTPUT	24 V	48 V	110 V	220 V	360 V
OUTPUT VOLTAGE RANGE	16-35 V	32-70 V	72-158 V	144-310 V	240-480 V
OUTPUT STABILITY (FLOAT MODE)	SINGLE ± 1% PARALEL ± 2%				
VOLTAGE RIPPLE	<1% rms (without battery)				
CURRENT LIMITATION	5% to 100%				

BATTERY

BATTERY TYPE	LEAD ACID	Ni-Cd
AUTONOMY	FEW MINUTES TO HOURS	
BATTERY CURRENT LIMITATIONS	LEAD ACID 0.1C	
	Ni-Cd 0.2C	
BATTERY ROOM TEMPERATURE COMPENSATION	0.04V/1°C PER 12V BATTERY @± 25°C	

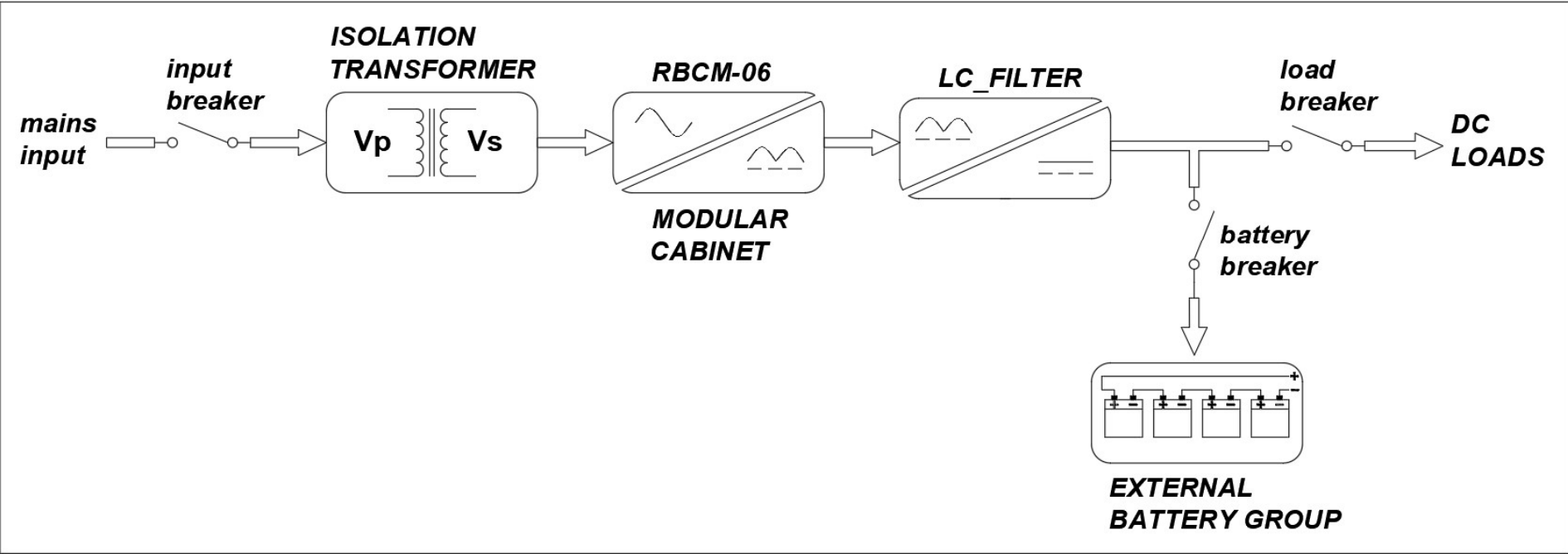
GENERAL DATA

Dimension	Depends on the project
IP protection	IP20 (IEC60529)
Cabinet color	RAL7035 or special
Cooling	Forced with FANs
Efficiency	80-95% (depends on ratings)
Noise (1m from unit)	60-70% (depends on ratings)
Operating temperature	0-40 C degree
Storage temperature	-20 to 70 C degree
Relative humidity	<95 non-condensing
Operating altitude	1000m max. without derating

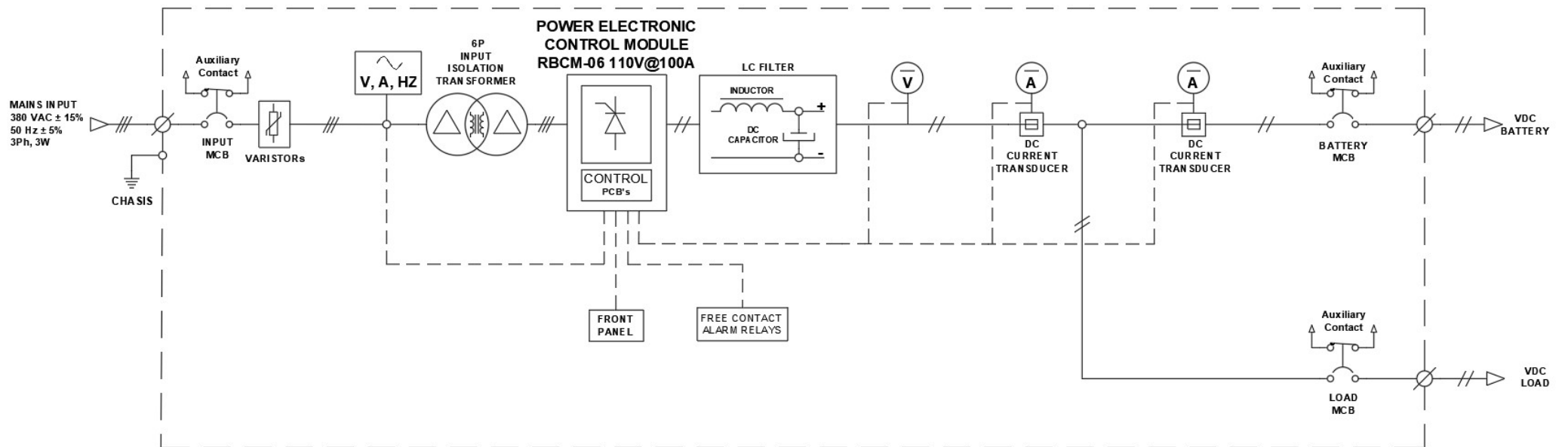
RBC-06 3 PHASE 6 PULSE INDUSTRIAL BATTERY CHARGER

DRAWINGS AND CIRCUITS

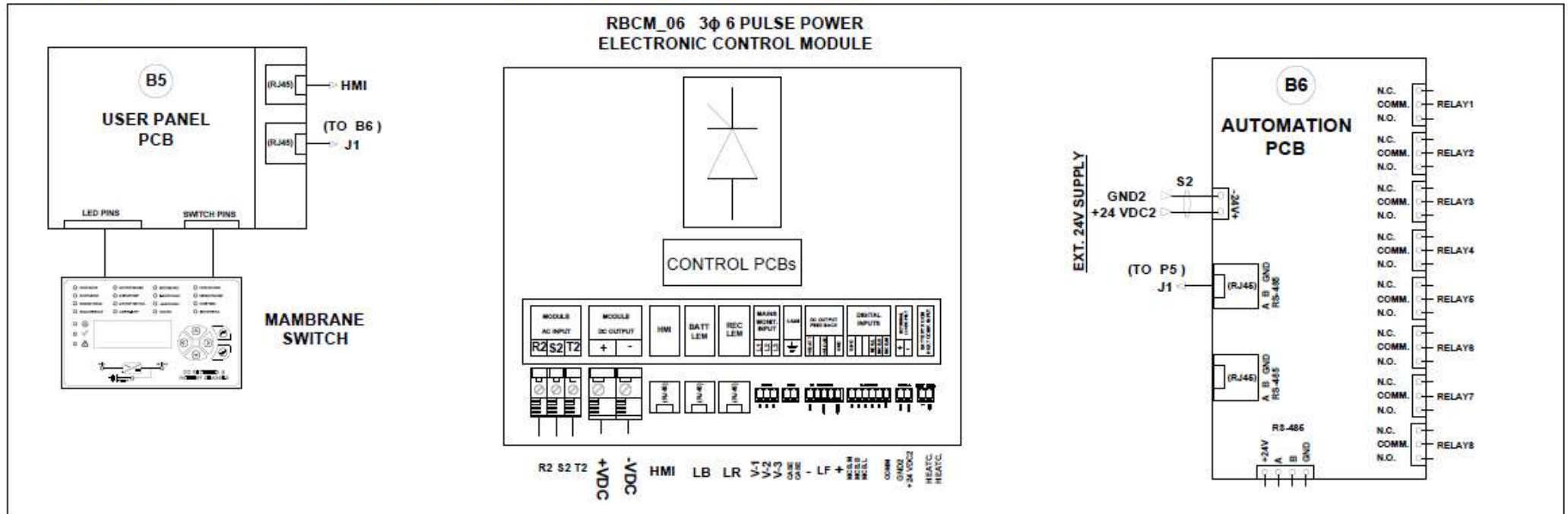
RBC-06 3 ϕ 6 PULSE INDUSTRIAL BATTERY CHARGER BLOCK DIAGRAM



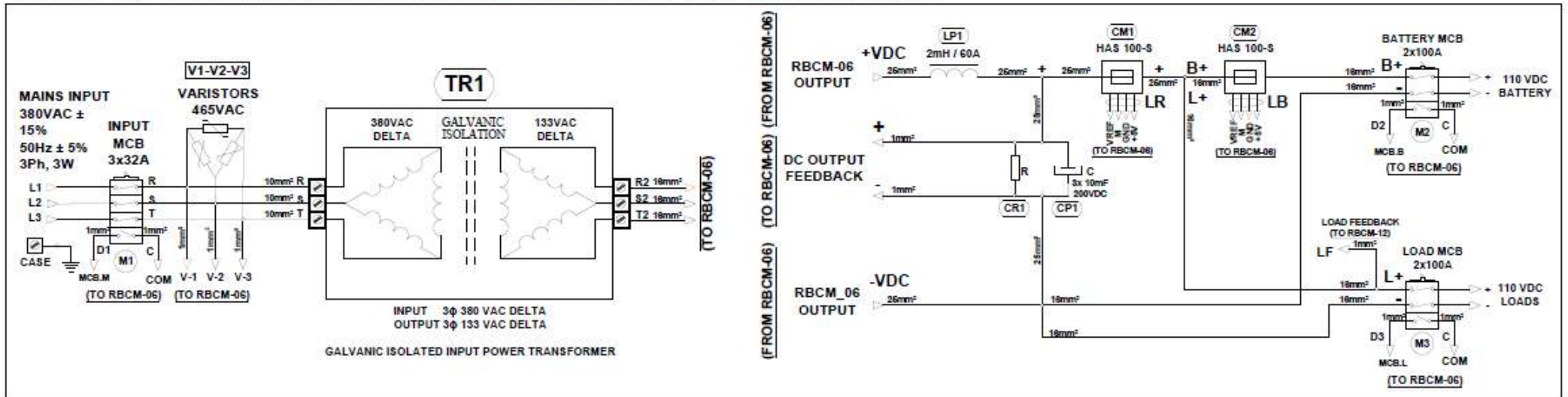
RBC-06 3 ϕ 6 PULSE INDUSTRIAL BATTERY CHARGER SINGLE LINE DIAGRAM



RBCM-06 3 ϕ 6 PULSE POWER ELECTRONIC CONTROL MODULE BLOCK DIAGRAM



RBC-06 3φ 6 PULSE INDUSTRIAL BATTERY CHARGER CABINET WIRING DIAGRAM



RBC-12 3 PHASE 12 PULSE INDUSTRIAL BATTERY CHARGERS



RBC-12 3 PHASE 12 PULSE INDUSTRIAL BATTERY CHARGER

DRAWINGS AND CIRCUITS

RBC-12 3 PHASE 12 PULSE INDUSTRIAL BATTERY CHARGER

TECHNICAL SPECIFICATIONS

INPUT

AC INPUT VOLTAGE (LINE TO LINE)	220/240/380/400/440/480 VAC ± 15%
FREQUENCY	50 - 60 Hz ± 5%
DPF (cos θ)	>0.9 (AT FULL LOAD)
POWER FACTOR (COS ϕ)	>0.85(AT FULL LOAD)

OUTPUT

NOMINAL DC OUTPUT	24 V	48 V	110 V	220 V	360 V
OUTPUT VOLTAGE RANGE	16-35 V	32-70 V	72-158 V	144-310 V	240-480 V
OUTPUT STABILITY (FLOAT MODE)	SINGLE ± 1% PARALEL ± 2%				
VOLTAGE RIPPLE	<1% rms (without battery)				
CURRENT LIMITATION	5% to 100%				

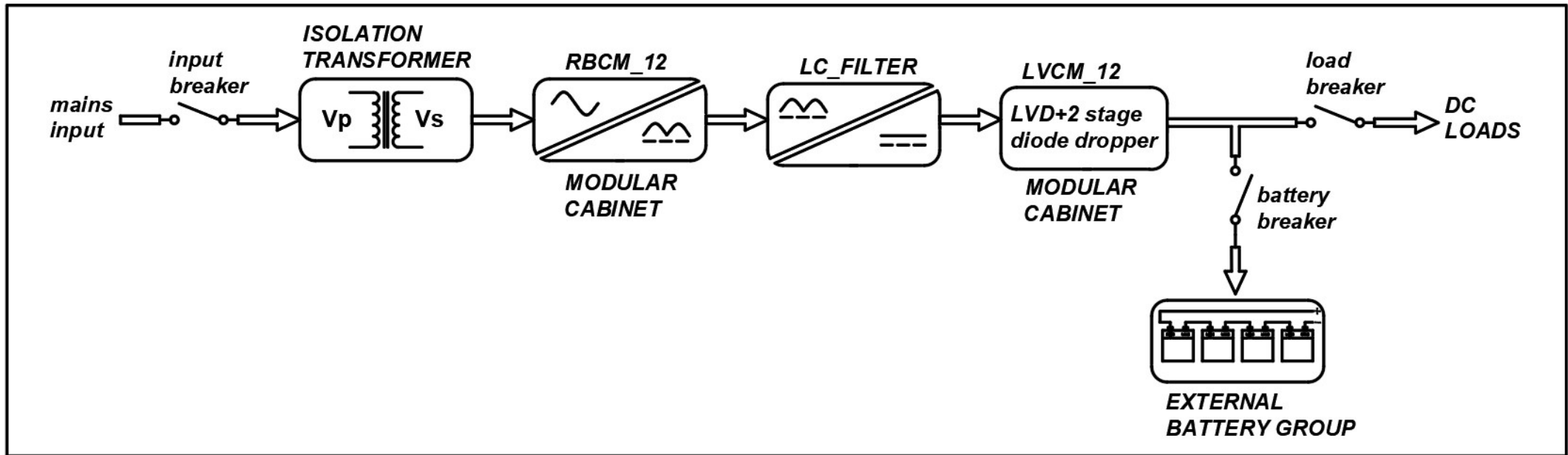
BATTERY

BATTERY TYPE	LEAD ACID	Ni-Cd
AUTONOMY	FEW MINUTES TO HOURS	
BATTERY CURRENT LIMITATIONS	LEAD ACID 0.1C	
	Ni-Cd 0.2C	
BATTERY ROOM TEMPERATURE COMPENSATION	0.04V/1°C PER 12V BATTERY @± 25°C	

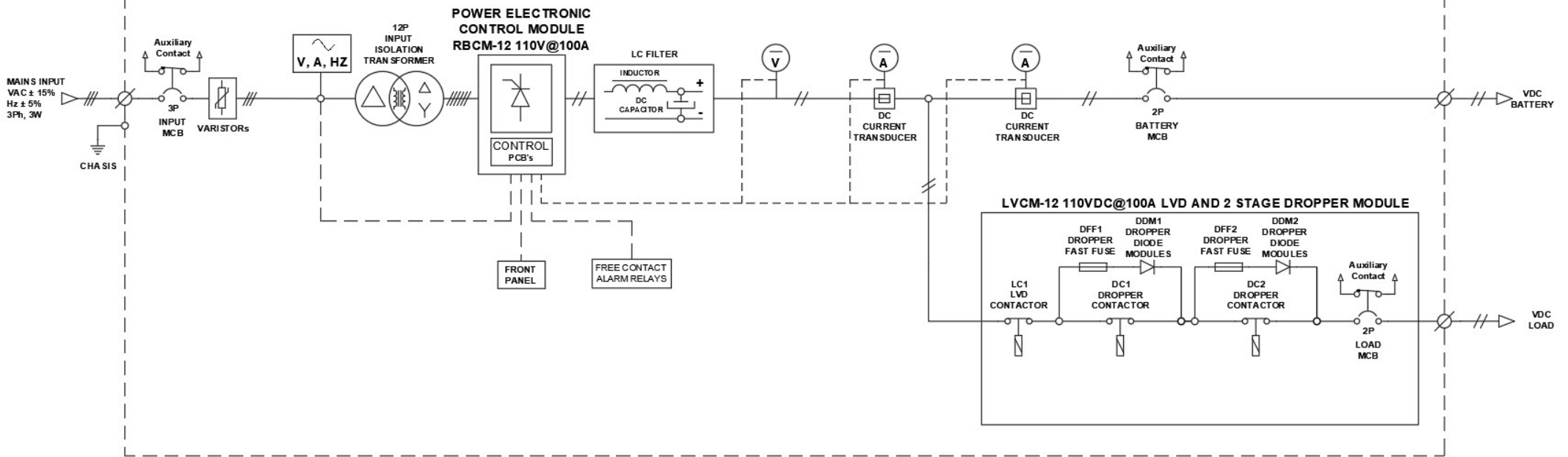
GENERAL DATA

Dimension	Depends on the project
IP protection	IP20 (IEC60529)
Cabinet color	RAL7035 or special
Cooling	Forced with FANs
Efficiency	80-95% (depends on ratings)
Noise (1m from unit)	60-70% (depends on ratings)
Operating temperature	0-40 C degree
Storage temperature	-20 to 70 C degree
Relative humidity	<95 non-condensing
Operating altitude	1000m max. without derating

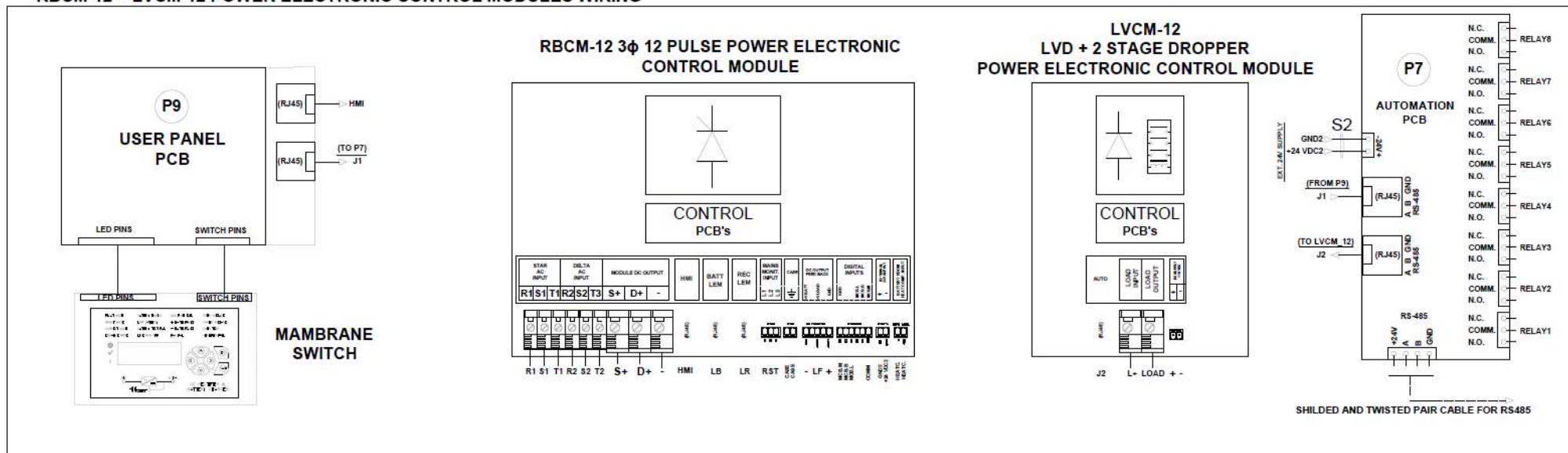
RBC-12 3 ϕ 12 PULSE RECTIFIER BLOCK DIAGRAM (RBCM-12 + LVCM-12)



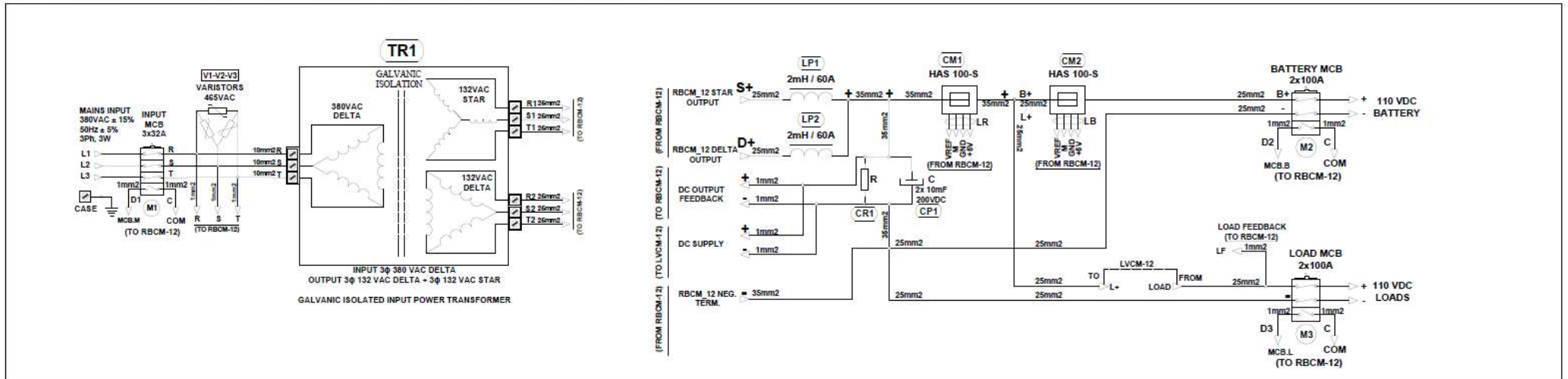
RBC-12 3 ϕ 12 PULSE RECTIFIER SINGLE LINE DIAGRAM



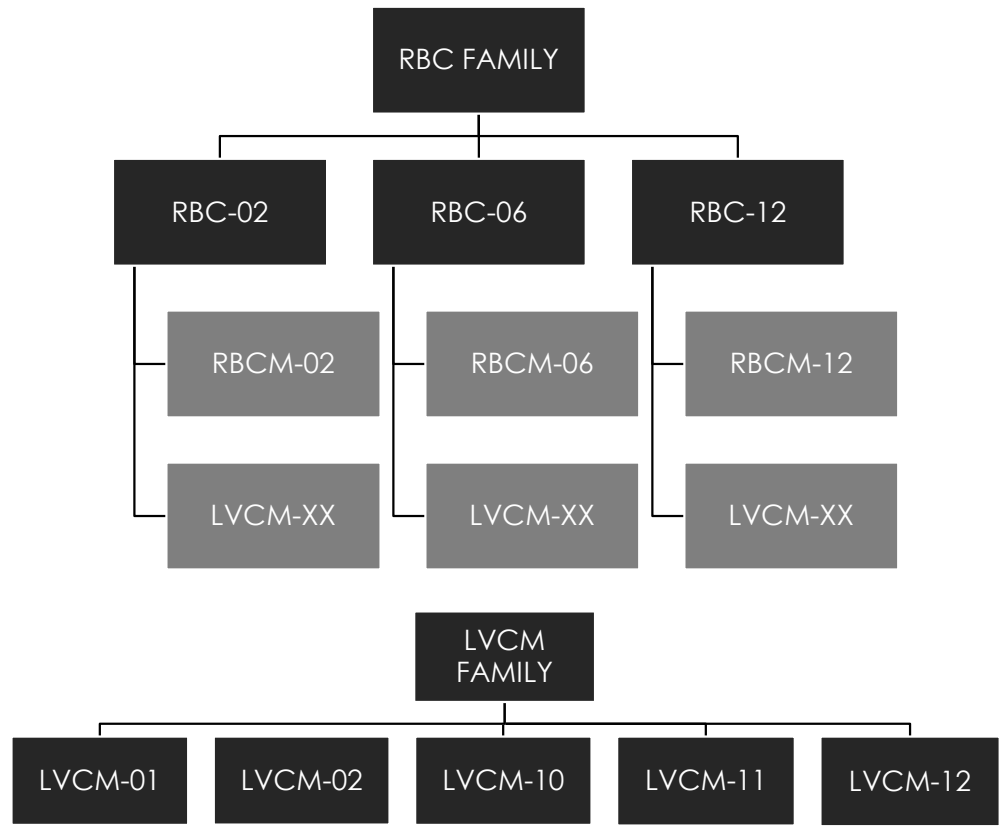
RBCM-12 + LVCM-12 POWER ELECTRONIC CONTROL MODULES WIRING



RBC-12 3 ϕ 12 PULSE RECTIFIER / BATTERY CHARGER POWER CABINET WIRING

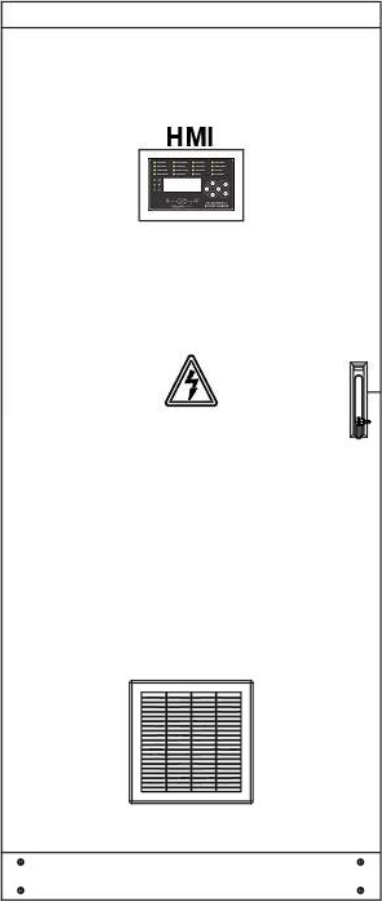


RBC INDUSTRIAL BATTERY CHARGER FAMILY SUMMARY

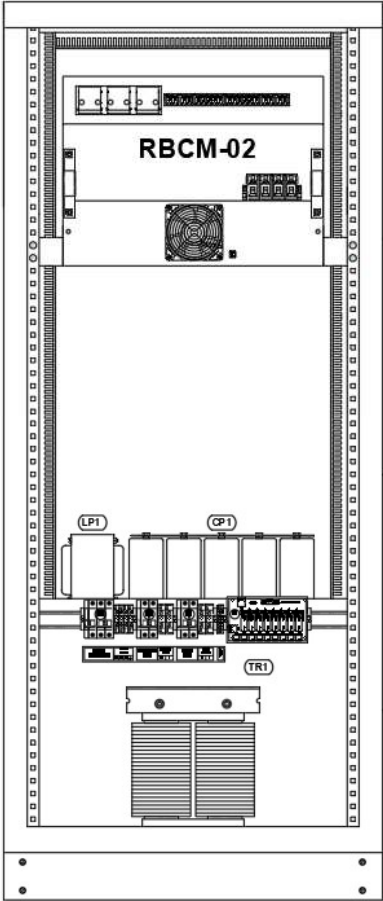


RBC-02 INDUSTRIAL BATTERY CHARGER NEW GENERATION CABINET DRAWINGS

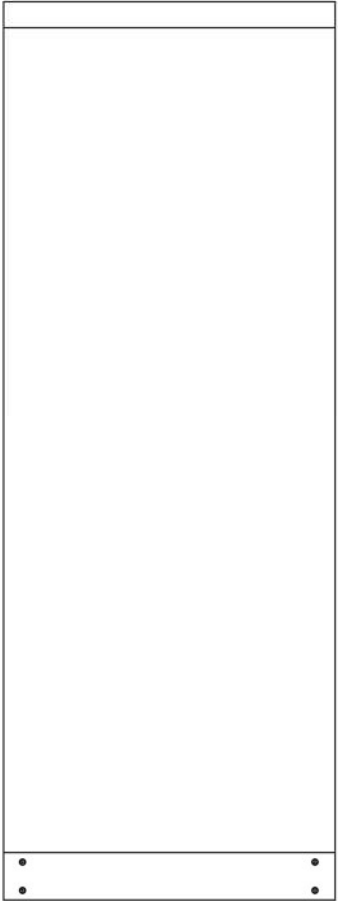
FRONT VIEW



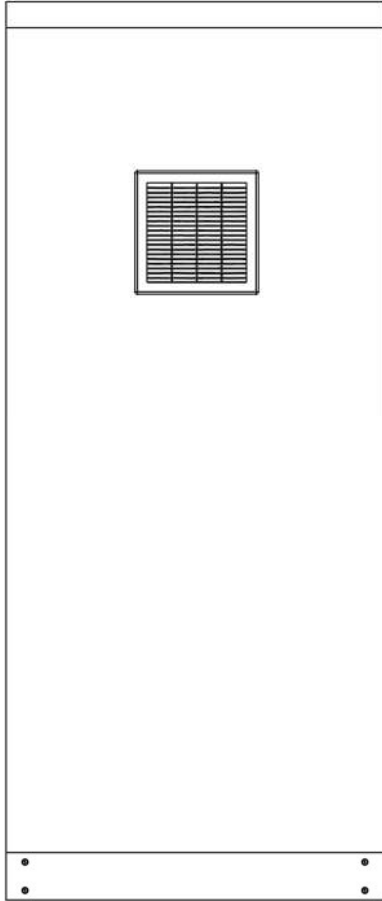
INSIDE VIEW



SIDE VIEW

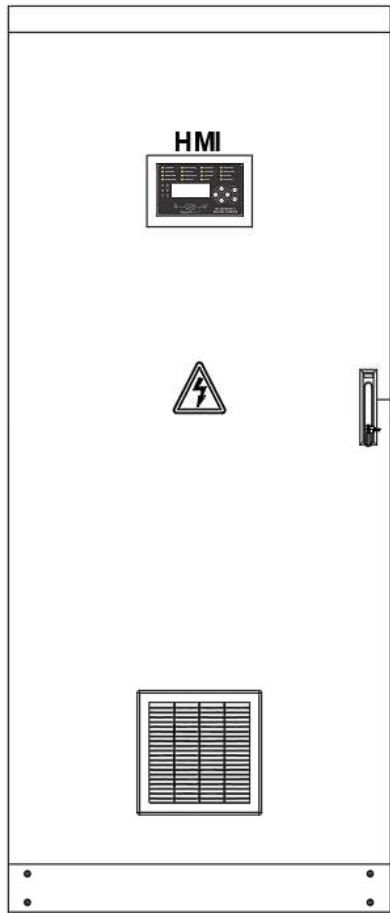


BACK VIEW

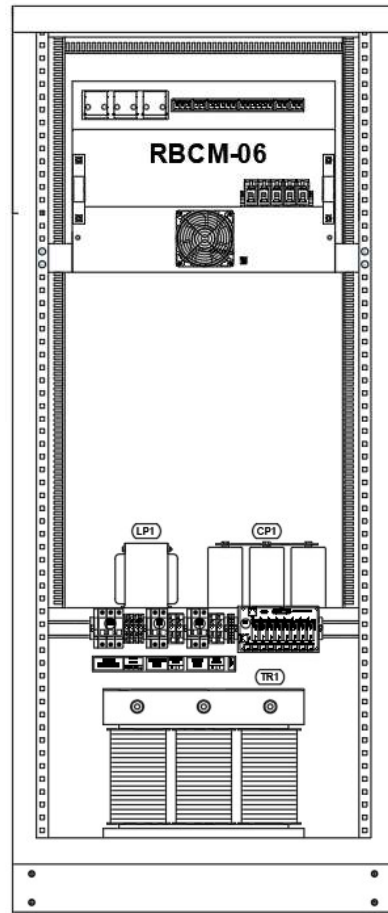


RBC-06 INDUSTRIAL BATTERY CHARGER NEW GENERATION CABINET DRAWINGS

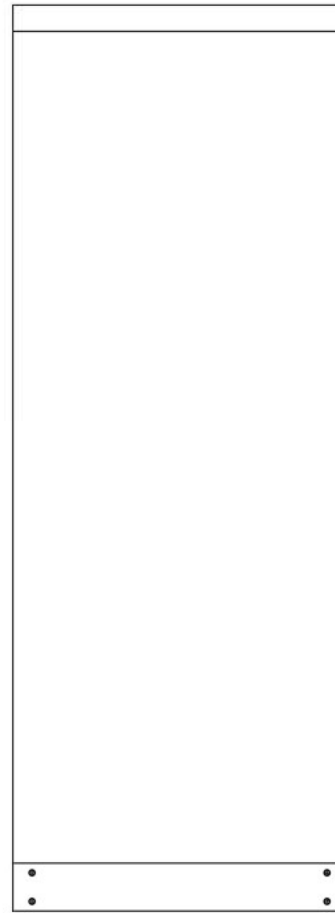
FRONT VIEW



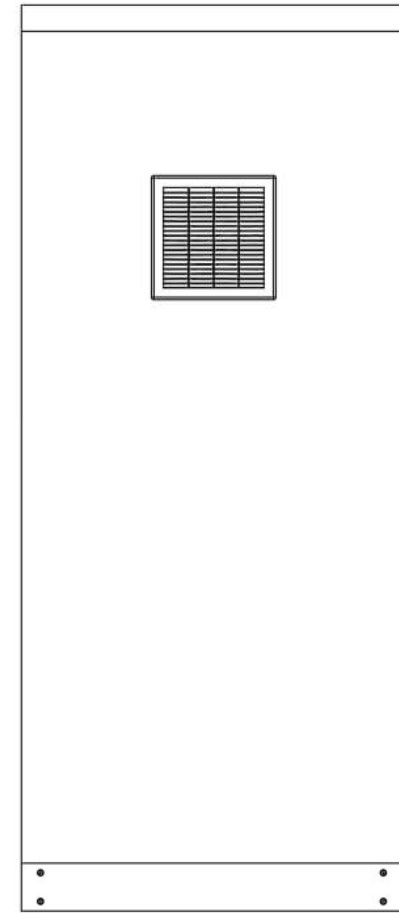
INSIDE VIEW



SIDE VIEW

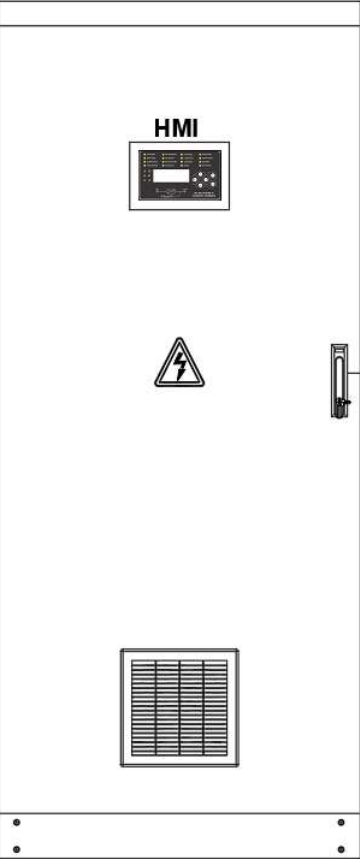


BACK VIEW

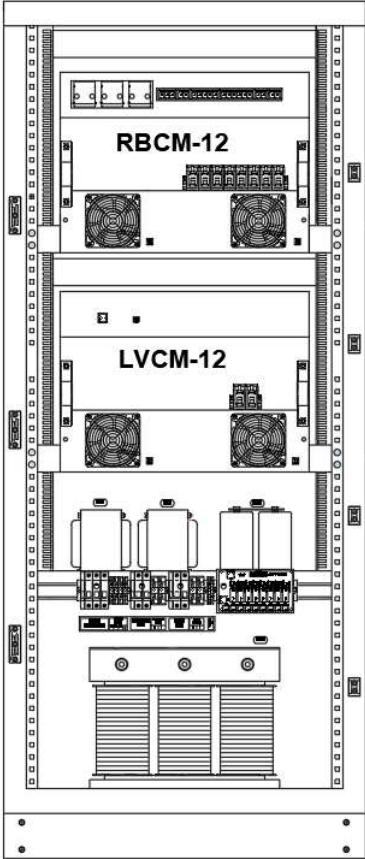


RBC-12 INDUSTRIAL BATTERY CHARGER NEW GENERATION CABINET DRAWINGS

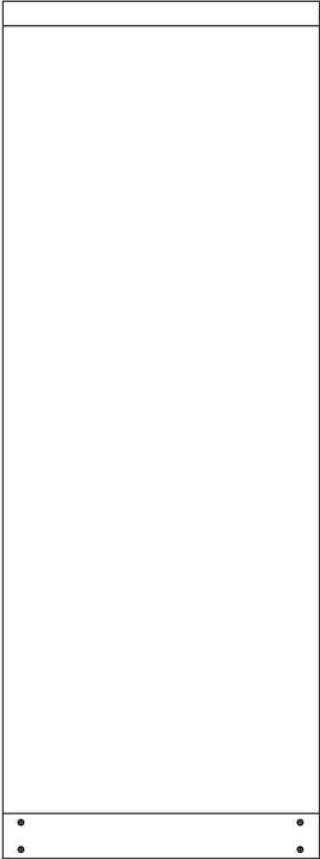
FRONT VIEW



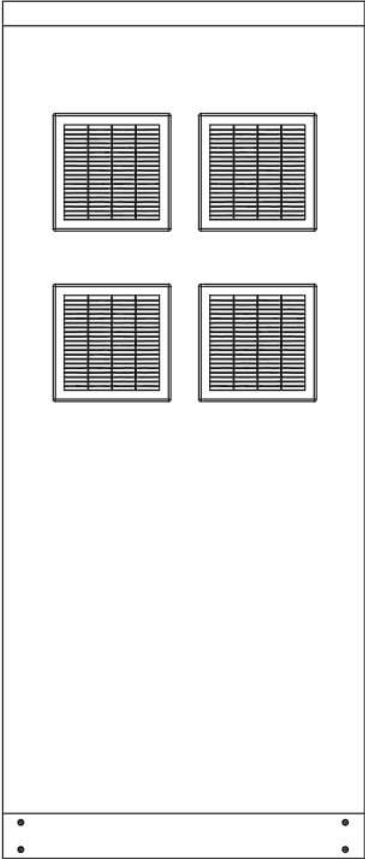
INSIDE VIEW



SIDE VIEW



BACK VIEW



OUR QUALITY CERTIFICATES



CE CERTIFICATE NUMBER : A1524178

APPLICABLE HARMONISED STANDARTS : 2006/42/EEC, 2014/30/EC

ISO 14001:2015,

ISO9001:2015,

ISO45001:2018



ISO 22301

ISO 22301:2019
CERTIFICATE NUMBER : A1525107



ISO 10002

ISO 10002:2019
CERTIFICATE NUMBER : A1525112



ISO 31000:2018
CERTIFICATE NUMBER : A1525108

Company Contact Informations

COMPANY:

PESS ENERJİ TEKNOLOJİLERİ LİMİTED ŞİRKETİ

PESS POWER ELECTRONIC SYSTEM SOLUTIONS
LIMITED COMPANY

INFO:

E-mail: info@pess-energy.com

SALES, MARKETING, MANUFACTURING

PLANT AND R&D:

Kentkoop Mah. 1859 Cad. Hamlekent Sitesi
No:39 B
06370 Yenimahalle / ANKARA / TURKEY

WEB:

www.pess-energy.com



