

Lab ID#: CR65001667
Receipt Date: Nov 19, 2018
Test Date: Jun 18, 2020

Report: 20PS1667A

Report Date: Jun 29, 2020

DUT INFORMATION

Brand	Corsair
Manufacturer (OEM)	Channel Well Technology
Series	RMx
Model Number	RPS0108
Serial Number	17477136000034430178
DUT Notes	

DUT SPECIFICATIONS

Rated Voltage (Vrms)	100-240
Rated Current (Arms)	10-5
Rated Frequency (Hz)	47-63
Rated Power (W)	650
Type	ATX12V
Cooling	135mm Rifle Bearing Fan (NR135L)
Semi-Passive Operation	✓
Cable Design	Fully Modular

TEST EQUIPMENT

Electronic Loads	Chroma 63601-5 x4 Chroma 63600-2 x2 63640-80-80 x20 63610-80-20 x2
AC Sources	Chroma 6530, Keysight AC6804B
Power Analyzers	N4L PPA1530 x2
Sound Analyzer	Bruel & Kjaer 2270 G4
Microphone	Bruel & Kjaer Type 4955-A
Data Loggers	Picoscope TC-08 x2, Labjack U3-HV x2
Tachometer	UNI-T UT372 x2
Digital Multimeter	Keysight U1273AX, Fluke 289, Keithley 2015 - THD
UPS	CyberPower OLS3000E 3kVA x2
Transformer	3kVA x2

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RESULTS

Temperature Range (°C /°F)	30-32 / 86-89.6 (+-2°C / +- 3.6°F)
ErP Lot 3/6 Ready	✓
(EU) No 617/2013 Compliance	✓

115V

Average Efficiency	87.299%
Efficiency With 10W (≤500W) or 2% (>500W)	54.449
Average Efficiency 5VSB	77.413%
Standby Power Consumption (W)	0.0329748
Average PF	0.990
Avg Noise Output	16.44 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A+

230V

Average Efficiency	89.268%
Average Efficiency 5VSB	77.253%
Standby Power Consumption (W)	0.0465607
Average PF	0.960
Avg Noise Output	16.35 dB(A)
Efficiency Rating (ETA)	GOLD
Noise Rating (LAMBDA)	A+

POWER SPECIFICATIONS

Rail		3.3V	5V	12V	5VSB	-12V
Max. Power	Amps	25	25	54	3	0.8
	Watts	130		648	15	9.6
Total Max. Power (W)		650				

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CABLES AND CONNECTORS

Modular Cables

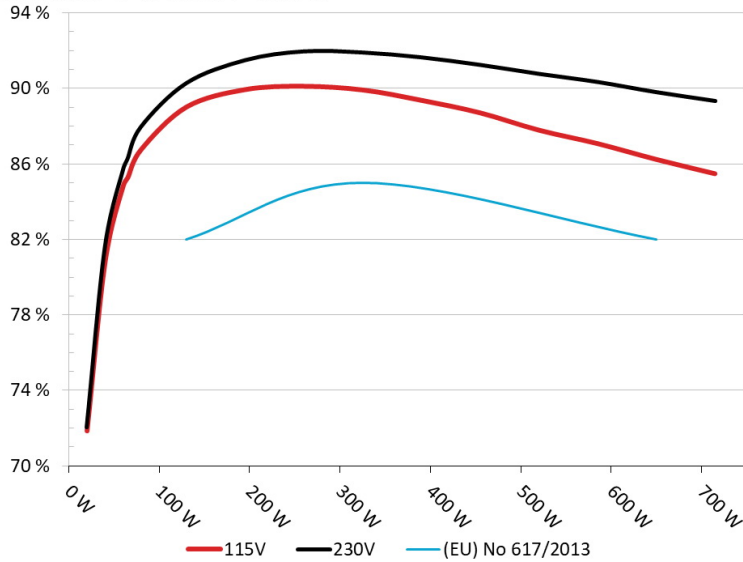
Description	Cable Count	Connector Count (Total)	Gauge	In Cable Capacitors
ATX connector 20+4 pin (600mm)	1	1	18-20AWG	Yes
4+4 pin EPS12V (650mm)	1	1	18AWG	Yes
6+2 pin PCIe (600mm+150mm)	2	4	18AWG	Yes
SATA (520mm+110mm+110mm)	3	9	18AWG	No
4 pin Molex (450mm+100mm+100mm+100mm)	1	4	18AWG	No
FDD Adapter (+100mm)	1	1	20AWG	No
AC Power Cord (1430mm) - C13 coupler	1	1	18AWG	-

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EFFICIENCY UNDER HIGH AMBIENT TEMPERATURE

Efficiency: Corsair RM650x
Ambient: 37°C - 46°C (98.6°F - 114.8°F)

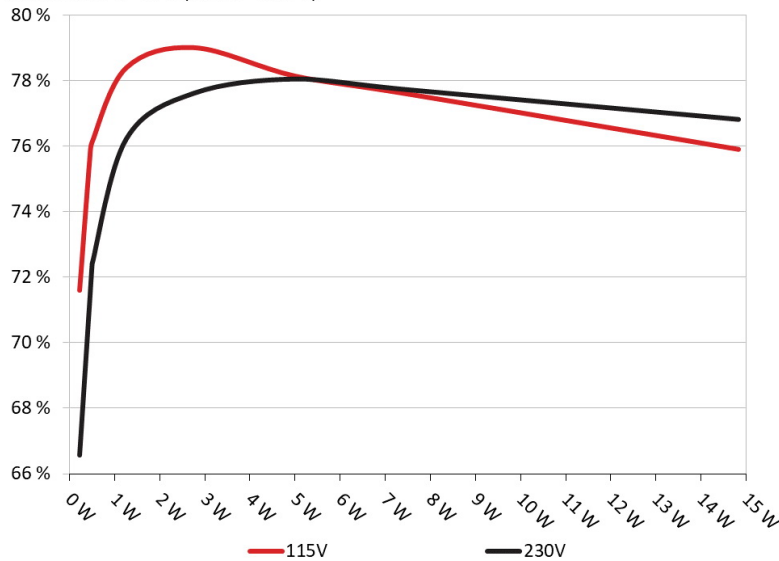


INFO

The PSU's efficiency under high ambient temperatures with 115V and 230V input. For this graph the results of the 10-110% load regulation table are used

5VSB EFFICIENCY

5VSB Efficiency: Corsair RM650x
Ambient: 34°C - 36°C (93.2°F - 96.8°F)



INFO

This graph depicts the efficiency levels of the 5VSB rail with 115V and 230V input

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5VSB EFFICIENCY -115V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.227	71.609%	0.031
	5.039V	0.317		115.14V
2	0.090A	0.454	75.667%	0.059
	5.037V	0.600		115.14V
3	0.550A	2.763	79.011%	0.253
	5.022V	3.497		115.14V
4	1.000A	5.008	78.140%	0.339
	5.007V	6.409		115.14V
5	1.500A	7.490	77.600%	0.388
	4.993V	9.652		115.14V
6	3.001A	14.829	75.910%	0.451
	4.942V	19.535		115.14V

5VSB EFFICIENCY -230V (ERP LOT 3/6 & CEC)

Test #	5VSB	DC/AC (Watts)	Efficiency	PF/AC Volts
1	0.045A	0.227	66.569%	0.010
	5.039V	0.341		230.27V
2	0.090A	0.454	72.408%	0.018
	5.037V	0.627		230.27V
3	0.550A	2.763	77.612%	0.099
	5.022V	3.560		230.27V
4	1.000A	5.008	78.043%	0.164
	5.007V	6.417		230.27V
5	1.500A	7.489	77.719%	0.220
	4.992V	9.636		230.27V
6	3.000A	14.823	76.811%	0.318
	4.941V	19.298		230.26V

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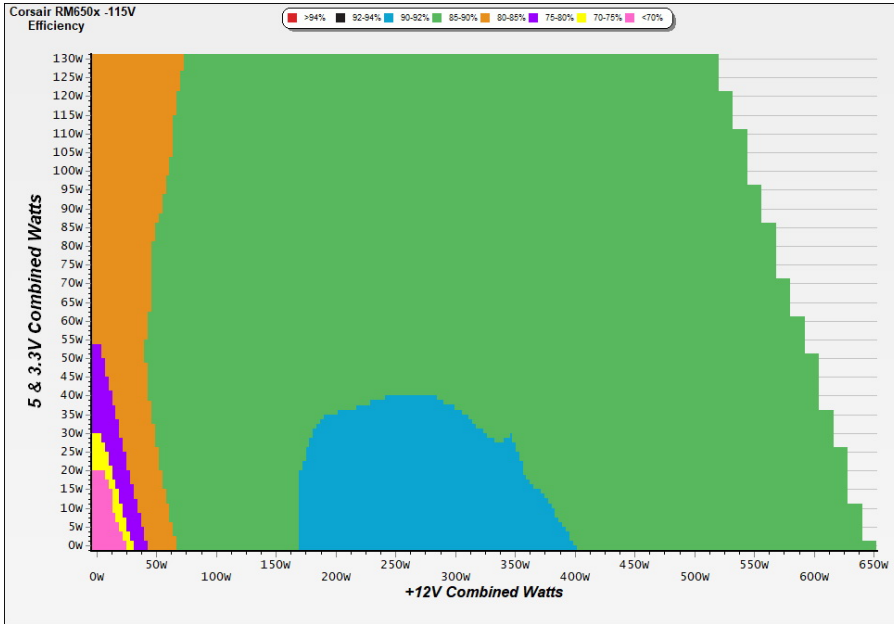
115V

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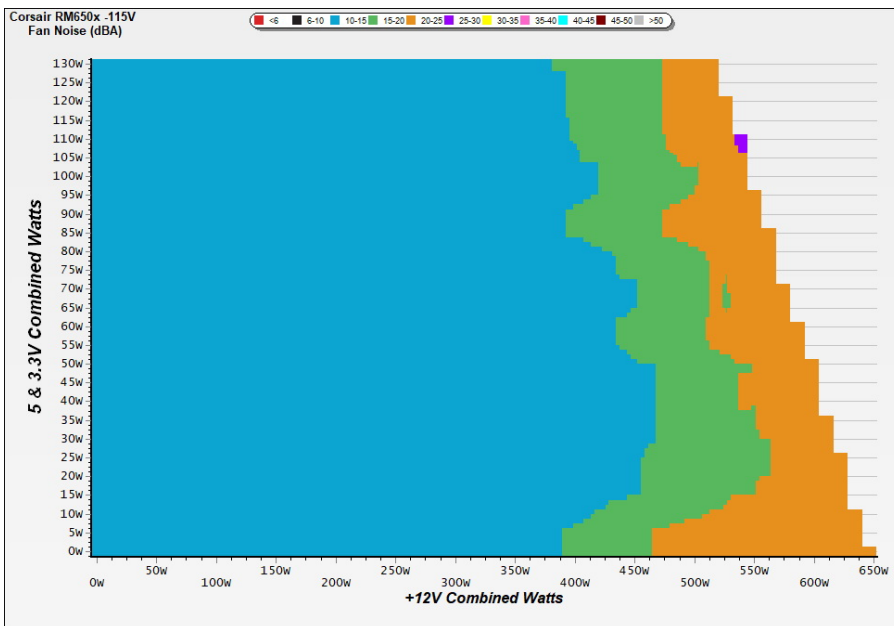
EFFICIENCY GRAPH 115V



INFO

This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

NOISE GRAPH 115V



INFO

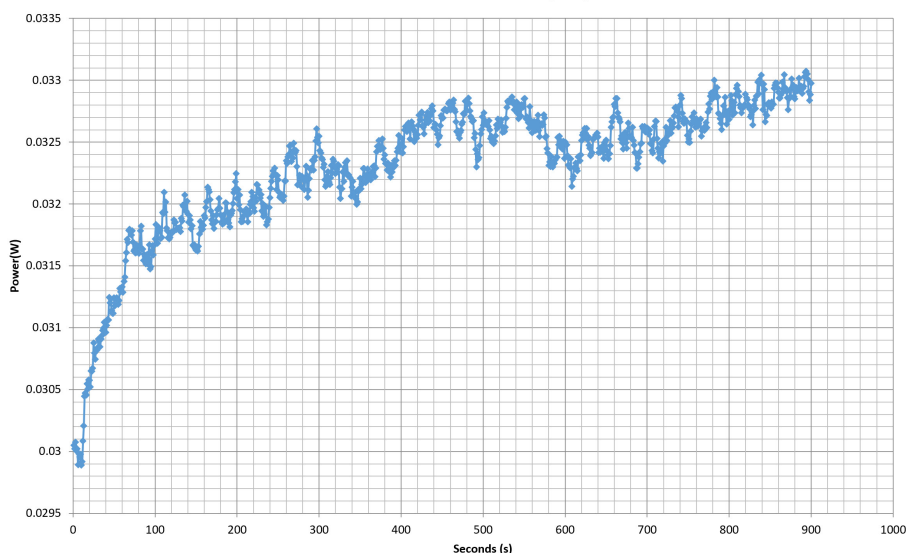
The PSU's noise in its entire operational range and under 30-32 °C (+-2 °C) ambient is depicted in this graph. The X axis represents the load on the +12V rail(s) while the Y axis is the load on the minor rails

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VAMPIRE POWER -115V

Power - 17477136000034430178 - 15/06/2020 - 12:42



INFO

This graph is generated by the PPA Standby Power Analysis software which takes full control of the power analyzer during the whole procedure. This application features all of the EN50564 & IEC62301 test limits for standby power software testing

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COMMISSION REGULATION (EU) NO 617/2013 TESTING 115V

Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	3.596A	1.993A	1.990A	1.001A	64.978	85.264%	0	<6.0	44.05°C	0.972
	12.064V	5.016V	3.316V	4.995V	76.208				40.24°C	115.15V
2	8.226A	2.995A	2.991A	1.203A	130.067	89.021%	0	<6.0	44.79°C	0.988
	12.053V	5.012V	3.312V	4.989V	146.109				40.40°C	115.14V
5	22.856A	5.001A	5.001A	1.813A	325.155	89.923%	623	11.1	42.74°C	0.994
	12.016V	5.001V	3.300V	4.966V	361.592				49.11°C	115.14V
10	46.881A	9.033A	9.056A	3.046A	650.050	86.239%	1222	34.0	45.56°C	0.995
	11.952V	4.984V	3.280V	4.926V	753.780				55.71°C	115.12V

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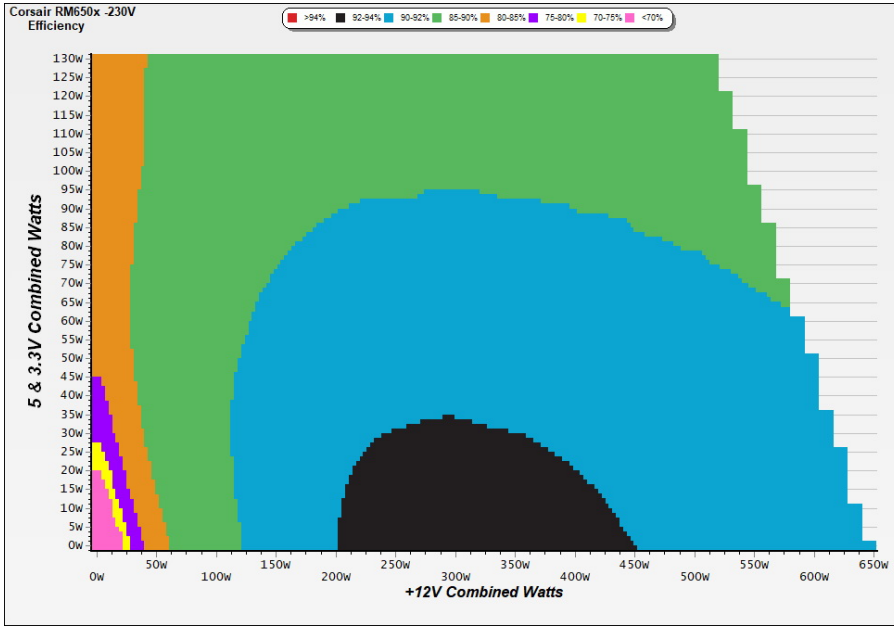
230V

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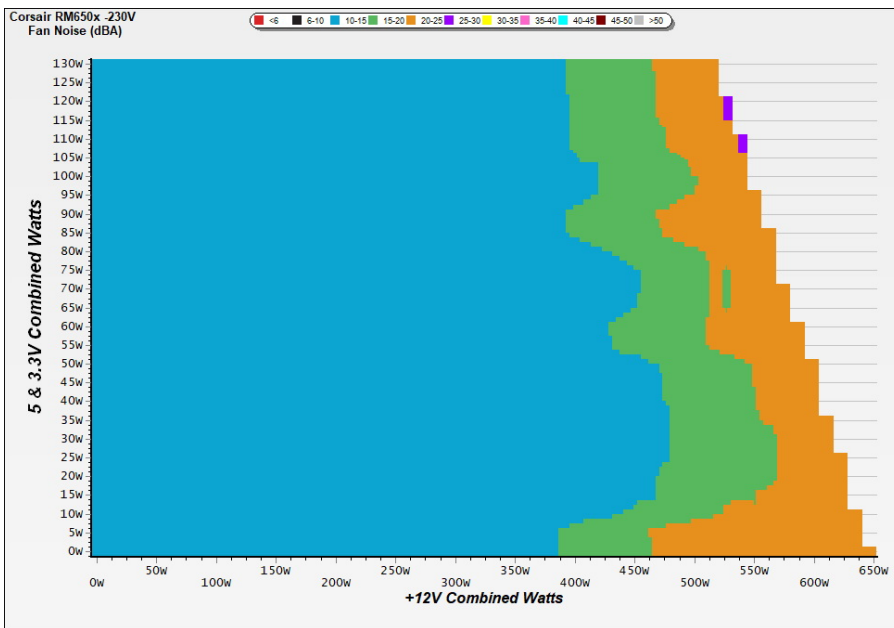
EFFICIENCY GRAPH 230V



INFO

This graph depicts the PSU's efficiency throughout its entire operational range. For the generation of the efficiency and noise graphs we set our loaders to auto mode through our custom-made software before trying thousands of possible load combinations

NOISE GRAPH 230V



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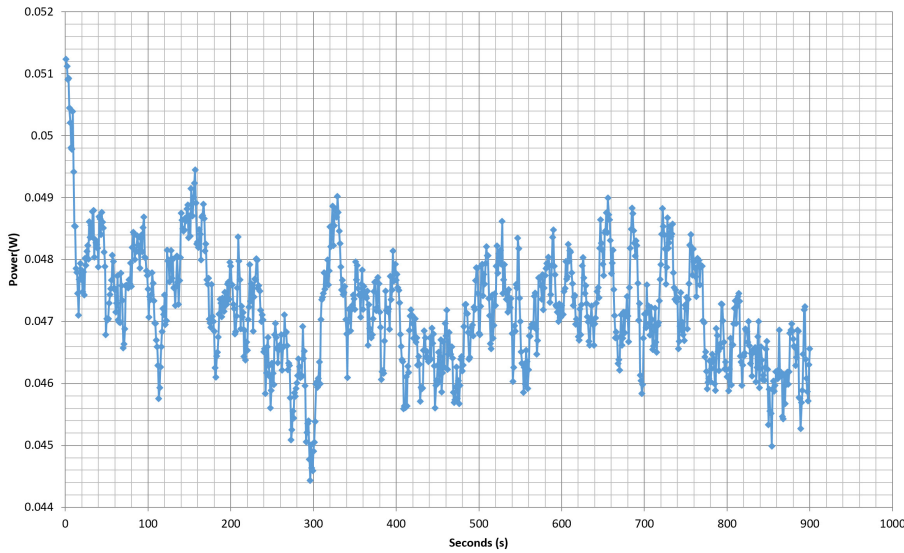
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COMMISSION REGULATION (EU) NO 617/2013 TESTING 230V

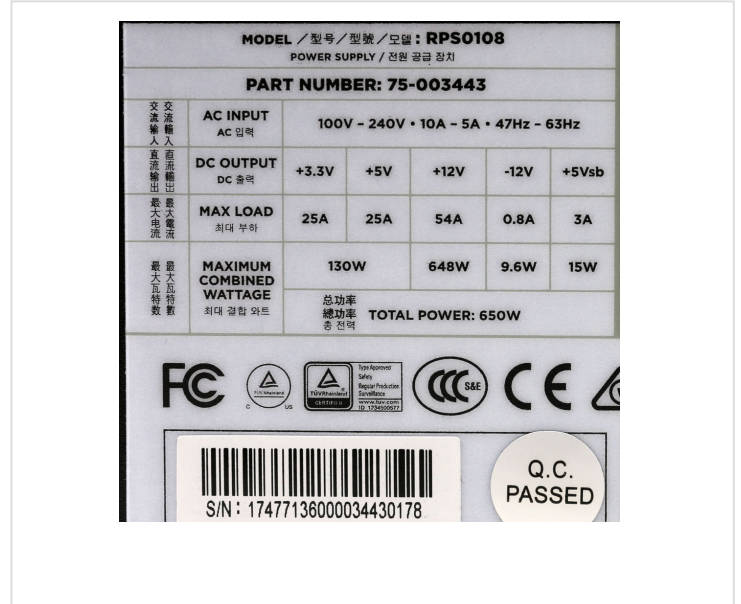
Test #	12V	5V	3.3V	5VSB	DC/AC (Watts)	Efficiency	Fan Speed (RPM)	PSU Noise (dB[A])	Temps (In/Out)	PF/AC Volts
1	3.594A	1.994A	1.993A	1.001A	64.968	86.243%	0	<6.0	44.83°C	0.808
	12.064V	5.016V	3.316V	4.994V	75.331				40.65°C	230.26V
2	8.225A	2.994A	2.989A	1.203A	130.039	90.269%	0	<6.0	45.42°C	0.924
	12.053V	5.012V	3.311V	4.988V	144.057				40.72°C	230.27V
5	22.855A	5.001A	5.000A	1.813A	325.105	91.895%	624	11.2	41.60°C	0.978
	12.015V	5.000V	3.299V	4.965V	353.779				48.16°C	230.26V
10	46.865A	9.037A	9.059A	3.047A	649.946	89.792%	1228	34.1	45.54°C	0.989
	11.954V	4.981V	3.279V	4.924V	723.838				55.71°C	230.27V

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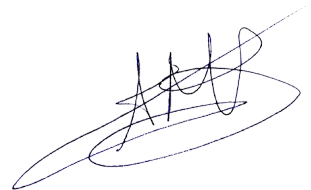


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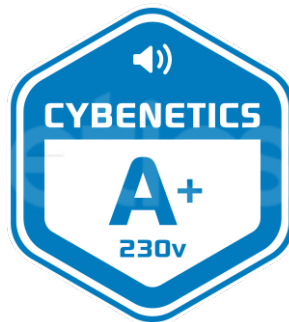
Power specifications label

CERTIFICATIONS 115V

Aristeidis Bitziopoulos
Lab Director

CERTIFICATIONS 230V



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