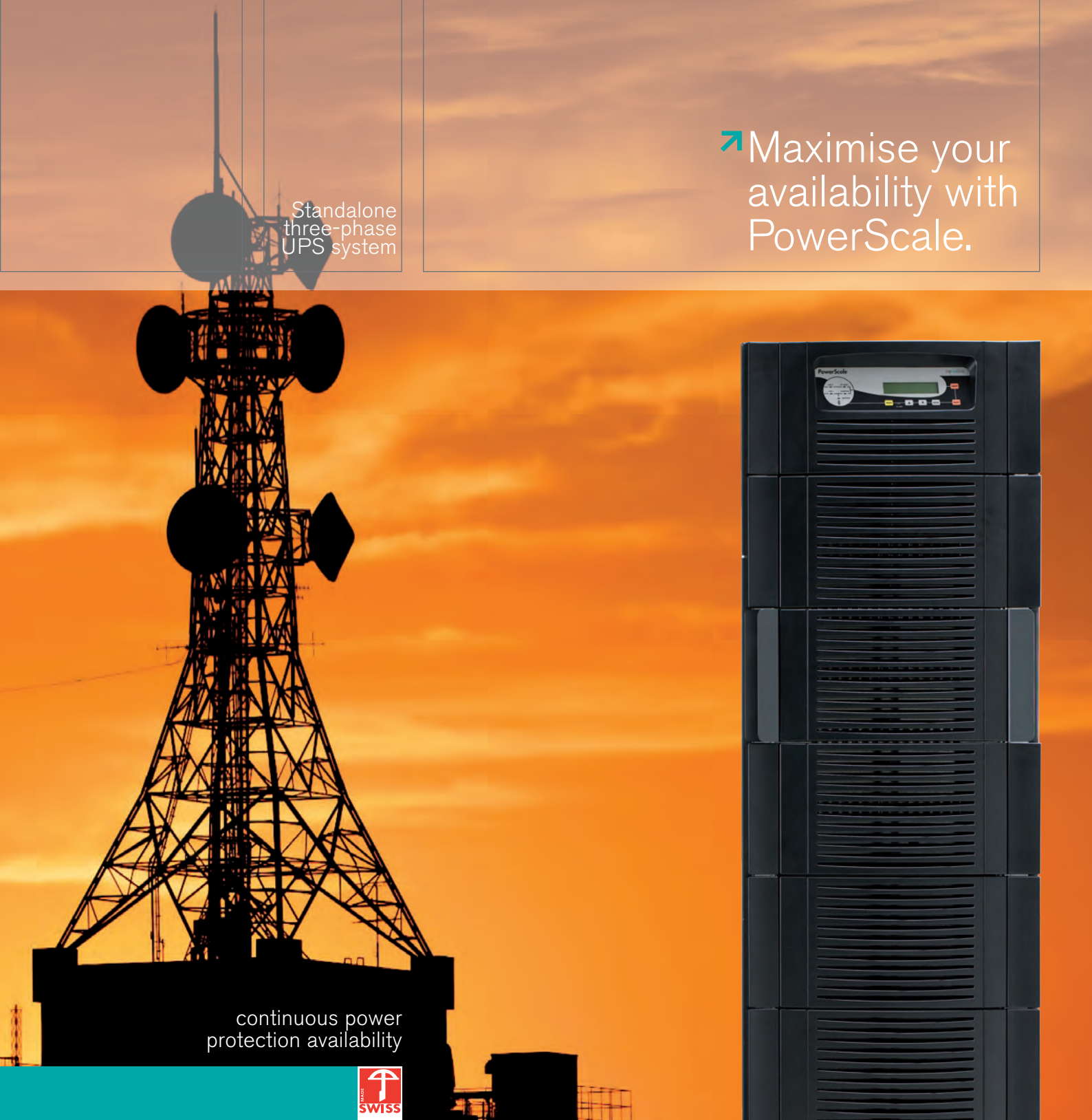
PowerScale 10 – 50 kVA

Standalone
three-phase
UPS system

Maximise your availability with PowerScale.



continuous power
protection availability

PowerScale –
Premium Power Protection.

PowerScale is a mid-size, three-phase UPS system that delivers premium power protection for the increasing loads in today's server rooms and data centres. PowerScale is available in seven power ratings: **10, 15, 20, 25, 30, 40 and 50 kVA.**

This new generation of transformer-less UPS responds to all major concerns of IT and facility managers. As saving costs and 100% uptime are their top priorities, PowerScale offers the lowest cost of ownership of any UPS system by providing energy efficiency, scalable flexibility, highest availability and easy serviceability.

The all-in-one solution includes a true online double conversion (VFI = Voltage Frequency Independent), a power distribution unit, a manual maintenance bypass, a static thyristor bypass, intelligent battery management and space for internal batteries. PowerScale a complete power protection system in one box and allows for simple installation.

The standalone three-phase UPS system is the ideal solution for server rooms, networks, small data centres, telecommunications and health care infrastructures, banking and industrial applications.

The broad range of PowerScale has been designed to offer the most important benefits to our customers and fulfil today's most demanding requirements in terms of:

_ System availability
_ Environmental impact
_ Total cost of ownership
_ Solution flexibility

PowerScale is available in three cabinet sizes and allows various battery backup time configurations.

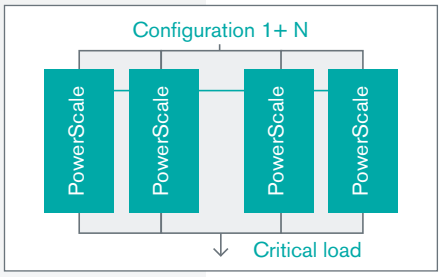
High system availability.

Today's critical applications require full redundancy in order to ensure the highest availability and 100% uptime. Up to 20 PowerScale units can be installed in parallel. Also, PowerScale shows superior reliability as a result of being built of the highest quality components.

The high quality of components used, the advanced design, the highly efficient and lean production process and the exhaustive system test of each unit ensure the exceptional reliability of all PowerScale units. These specific measures are confirmed by PowerScale industry-leading technical characteristics such as:

_ Output power factor: 0.9
_ High input voltage tolerance
(100% load: –23%/+15%; 60% load: –40%/+15%)
_ High input frequency tolerance (35–70 Hz)
_ AC-AC efficiency up to 95.5%
_ Ripple-free battery charging

Parallel systems (n+x) substantially increase redundancy and therefore ensure continuous support of the load should any unit shut down. The redundant system allows for maintenance on all parallel cabinets without the need for an external maintenance bypass and without having to remove the critical load from conditioned power.



Up to 20 UPS units can be installed in parallel to achieve increased redundancy or more power.

Low environmental impact

The PowerScale range operates in the largest three-phase UPS market. Consequently it is even more important that PowerScale offers best-in-class, environmentally friendly features such as:

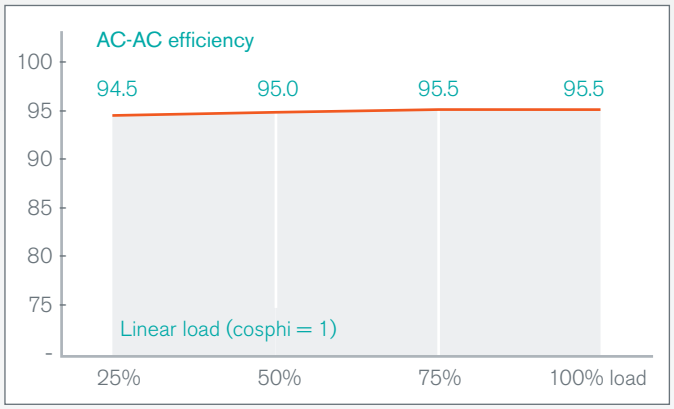
_ High efficiency for energy saving
_ Small size for space saving
_ Flexible battery block per string for minimal environmental impact
_ Sustainable material for proper recycling
_ Efficient manufacturing

PowerScale fully embodies the fundamental values of Newave and allows IT facility managers to employ a sustainable power protection strategy.

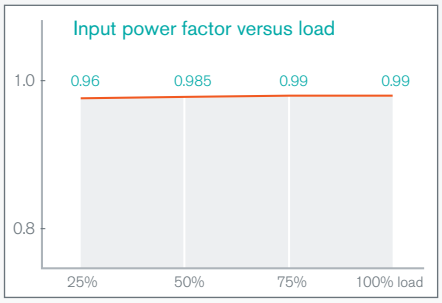
Low total cost of ownership.

Thanks to its broad range and simple parallel configuration, each PowerScale system can be configured and extended to function with the initial or future power requirements of your infrastructure.

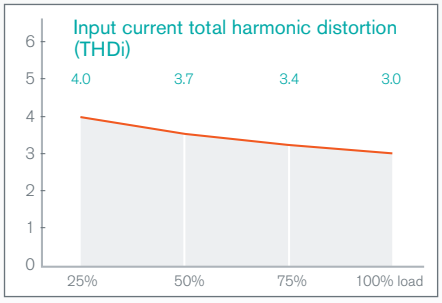
Initial right-sizing of the UPS system and gradual extension according to effective load requirements will optimise your investment.



PowerScale exhibits state-of-the-art energy efficiency of up to 95.5%, therefore helping you to further reduce operating costs over the life of your UPS system. The flat efficiency curve is typical for all Newave products, and hence the fall in efficiency is marginal even at partial loads. This enables significant energy savings in every working condition.



The input power factor of PowerScale is near unity. This is made possible by the advance booster PFC (Power Factor Correction) circuit of Newave's transformer-less technology. As a result there is no need for a filter for phase compensation. When using PowerScale, the UPS system respects the power grid regulations, and therefore achieves important energy savings.



The outstanding low input current total harmonic distortion (THDi) helps to enhance the compatibility with generators. Low THDi eliminates possible interference with other equipment in the scheme, reduces the size of power cables, fuses and breakers at the input and avoids excess heating of power transformers.

Solution flexibility.

Flexible battery configuration

In each cabinet, the space available for internal batteries is designed to fulfil most of the run-time requirements. The smaller units (10 to 25 kVA) are available in two cabinet sizes, and the larger units (30 to 50 kVA) can house different battery sizes (7/9 Ah or 28 Ah).

If extended autonomy is required, the complementary battery cabinet of the PowerScale range can easily be connected to any unit.

GENERAL DATA	10 kVA		15 kVA		20 kVA		25 kVA		30 kVA	40 kVA	50 kVA
Cabinet type	A	B	A	B	A	B	B	C	C	C	C
Maximum number of batteries 7/9 Ah	1 x 48	2 x 48	1 x 48	2 x 48	1 x 48	2 x 48	2 x 48	3 x 48	3 x 48	3 x 48	3 x 48
Maximum number of batteries 28 Ah	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	1 x 48	1 x 48	1 x 48	1 x 48
Maximum autonomy of internal batteries in minutes at full load (cosphi 0.9)	15	35	10	20	6	15	12	20	15	10	8

With the advanced booster technology of Newave's transformer-less UPS, the number of battery blocks per string can be adjusted to the exact run-time required. This unique flexibility allows an optimal sizing of the battery capacity and a minimal investment.

The front panel of the type C cabinet is easily removable.

Compact design and simple serviceability

The compact design and small footprint of all PowerScale models serve to minimise space requirements and save valuable floor space. The units are available in three different cabinet sizes: A/B/C (see technical specifications for detailed dimensions).

Cabinet type C allows front access. The front panel is easily removable and offers simple serviceability. Cabinet types A and B are accessible from the rear.

Enhanced communication capabilities

PowerScale is equipped with a variety of standard and optional communications features for network connectivity and application management.

Standard features:
_ RS 232 on Sub-D9 port
_ 4 input contacts
_ 12 V DC source
_ RJ 45 for multidrop

Optional features:
_ SNMP card (slot)
_ Card including 5 potential free output contacts and USB port

Technical specifications.

GENERAL DATA	10 kVA	15 kVA	20 kVA	25 kVA	30 kVA	40 kVA	50 kVA
Output power max.	9 kW	13.5 kW	18 kW	22.5 kW	27 kW	36 kW	45 kW
Output power factor	0.9						
Topology	True online double conversion						
Parallel configuration	Up to 20 units in parallel configuration						
UPS type	Standalone						
Cable entry	Rear accessible				Front accessible		
Inbuilt batteries	Yes						
INPUT							
Nominal input voltage	3 x 380 V/220 V + N, 3 x 400 V/230 V + N, 3 x 415 V/240 V + N						
Voltage tolerance (Ref. to 3 x 400V/230 V)	For loads <100% (-23%, +15%), <80% (-30%, +15%), <60% (-40%, +15%)						
Input distortion THDi	<3% at 100% (sinewave)						
Frequency	35–70 HZ						
Power factor	0.99 at 100% load						
OUTPUT							
Rated output voltage	3 x 380 V/220 V + N, 3 x 400 V/230 V + N, 3 x 415 V/240 V + N						
Voltage tolerance (Ref. to 3 x 400 V/230 V)	1% (static), 4% (dynamic)						
Voltage distortion	<2% linear load, <4% non-linear load (IEC/EN62040-3)						
Frequency	50 or 60 Hz						
Overload capability	10 min.: 125% or 1 min.: 150% (at cosphi 0.8); 10 min.: 111% or 1 min.: 133% (at cosphi 0.9)						
Unbalanced load	100% (all 3 phases regulated independently)						
Crest factor	3 : 1						
EFFICIENCY							
Overall efficiency	Up to 95.5%						
In eco-mode configuration	98%						
ENVIRONMENT							
Storage temperature	–25–70 °C						
Operating temperature	0–40 °C						
Altitude	1000 m without derating						
BATTERY							
Battery type	7 Ah/9 Ah/28 Ah, sealed, lead-acid, maintenance-free						
Battery replacement	Field-replaceable						
Battery voltage	Flexible voltage for longer backup times						
Battery capacity	48 x 7/9 Ah	48 x 7/9 Ah	96 x 7/9 Ah	96 x 7/9 Ah	144 x 7/9 Ah or 48 x 28 Ah	144 x 7/9 Ah or 48 x 28 Ah	144 x 7/9 Ah or 48 x 28 Ah
COMMUNICATIONS							
LCD Display (PDM)	Yes						
LEDs	LED for notification and alarm						
Communication ports	1x RS 232						
Customer input interface	Remote shutdown, genset interface						
STANDARDS							
Safety	IEC/EN 62040-1-1, IEC/EN 60950-1						
Electromagnetic compatibility (EMC)	EN 61000-6-4, Product standard: EN 62040-2 EN 61000-4-2, EN 61000-4-3, EN 61000-4-4			EN 61000-6-2, Product standard: EN 62040-2 EN 61000-4-5, EN 61000-4-6			
Performance	IEC/EN 62040-3						
Product certification	CE						
Protection rating	IP 20						
Manufacturing	ISO 9001:2008, ISO 14001:2004						
WEIGHT, DIMENSIONS							
Cabinet type	A or B	A or B	A or B	B or C	C	C	C
Weight	60 or 88 kg	62 or 90 kg	64 or 92 kg	94 or 135 kg	145 kg	150 kg	155 kg
Dimensions W x H x D (mm)	345 x 720 x 710 or 345 x 1045 x 710	345 x 720 x 710 or 345 x 1045 x 710	345 x 720 x 710 or 345 x 1045 x 710	345 x 1045 x 710 or 440 x 1400 x 910	440 x 1400 x 910	440 x 1400 x 910	440 x 1400 x 910

About Newave.

Newave – Innovation is our culture

From the outset, Newave has been at the forefront of international innovation in the field of power protection and is considered to be a key trendsetter in its industry. In the mid and late nineties Newave has successfully introduced two leading technological UPS concepts: transformer-less and modular UPS systems. Newave has continuously perfected both technologies and implemented all of the best features into its newest generations of UPS.

Innovation is our culture. We provide products, systems and services that meet the needs of our customers as effectively as possible. That's why our researchers and developers are working today on the technologies of tomorrow.

Newave – Quality you can trust

Newave designs and manufactures its products in Switzerland, using the best quality material, attracting the best talent in the marketplace and providing them with the skills they need in order to deliver perfect quality. Newave is living proof that "Swiss made" represents more than a label of origin. Newave customers are buying a product of outstanding quality and reliability.

Newave – Environmentally friendly power protection

Newave has led the way to sustainable power protection from the outset. Our power protection solutions help IT professionals to execute a comprehensive energy-efficient strategy, increase performance while using a smaller energy footprint, and enable them to add new capacity to existing facilities without increasing power consumption. We ensure that our customers have access to reliable power supplies and can maximise their industrial productivity and energy efficiency.

Head Office: Operations, Sales and Marketing

Newave SA
Via Luserte Sud 9
CH-6572 Quartino
T +41 (0) 91 850 29 29
F +41 (0) 91 840 12 54
info@newavenergy.com
www.newavenergy.com

Subsidiaries

Austria
Newave Österreich GmbH
Laxenburger Str. 252
AT-1230 Wien
T +43 (1) 710 96 70 0
F +43 (1) 710 96 70 12
info@newavenergy.at
www.newavenergy.at

Finland
Newave Finland OY
Niittyläntie 2
FI-00620 Helsinki
T +358 (0) 10 421 9400
info@newaveups.fi
www.newaveups.fi

Germany
Newave USV Systeme GmbH
Dr.-Rudolf-Eberle-Str. 15
D-76534 Baden-Baden
T: +49 7223 9153 0
F: +49 7223 9153 330
zentrale@newavenergy.de
www.newavenergy.com

Italy
NEWAVE Italia
Via Vincenzo Ussani, 90
IT-00151 Roma
T +39 06 65 31 997
T +39 06 65 31 316
F +39 06 65 31 306
info@newavenergy.it
www.newavenergy.it

Spain
Newave España SA
Arturo Soria 329 1 D
ES-28033 Madrid
T +34 (91) 768 22 22
F +34 (91) 383 21 50
newave@newave.es
www.newavenergy.es

Switzerland
Newave Energy AG
Industriestrasse 5
CH-5432 Neuenhof
T +41 (0) 56 416 01 01
F +41 (0) 56 416 01 00
info@newavenergy.ch
www.newavenergy.ch

With a branch office in Biel:
Am Wald 36
CH-2504 Biel
T +41 (0) 32 366 60 30
F +41 (0) 32 366 60 35
info@newavenergy.ch
www.newavenergy.ch

The Netherlands
Newave UPS Systems BV
Stephensonweg 9
NL-4207 HA Gorinchem
T +31 (0) 183 64 6474
F +31 (0) 183 62 3540
info@newaveups.nl
www.newavenergy.nl

Hong Kong and China
Newave Energy Hong Kong Ltd
Room 2506, West Tower,
Shun Tak Centre
HK-168-200 Connaught Road
Central
T +31 642 215 512
sales-china@newave.com.cn
www.newavenergy.cn

With a branch office in China:
Newave Energy (Jiangmen) Limited
9/F Kawa House, 49 Jiangshe Road,
Jiangmen, GuangDong, China
Postal Code: 529000
T +86 750 368 0239
F +86 750 368 0229
sales-china@newave.com.cn
www.newavenergy.cn

India
Newave Energy India Pvt. Ltd.
818/819 Corporate Avenue,
Sonawala Road, Goregaon East,
IN-Mumbai 400 0063
T +91 (22) 4266 5151
F +91 (22) 4266 5141
info@newavenergy.in
www.newavenergy.com

Latin America
Newave South America LTDA
Rua Clodomiro Amazonas No. 1422
Suite 68
BR-04537-002 - São Paulo
T +55 (11) 3045 0809
F +55 (11) 3045 0764
info@newavesam.com
www.newavenergy.com