

casestudy

product	customer	sector
		Telecom Italia (www.telecomitalia.com) is the largest Italian telecommunications company, also active in the media and manufacturing industries, with 2009 revenues of €27 billion.

The Cafasse installation neatly demonstrates the superiority of Pnu Power Compressed Air Batteries in terms of much lower whole life costs and consistent performance.



The Pnu Power Compressed Air Battery is more compact, has much lower maintenance and has no special environmental requirements, compared with the lead acid battery installation (above centre) which it has replaced.

challenge

- support Telecom Italia's telecommunications and data network in the village of Cafasse, Turin, Northern Italy
- provide instantaneous 'no break' operation, triggered by any loss of the 230 Vac mains supply
- provide automatic recharging of the air store to make the installation self-reliant

solution

- installation of a Pnu Power 5™ Compressed Air Battery, to provide 4kW, 48V DC output
- automatic recharge compressor and a 10 cylinder pack, with 300 Bar (4350 PSI) air store, provides 60 minutes of autonomous UPS
- with the 230 Vac mains supply restored, the compressed air used to support the outage is automatically replenished by the recharge compressor in readiness for the next event

benefits

- autonomous system with low maintenance
- no special environmental requirements (previous lead/acid battery system required an air conditioned enclosure)
- reliable alternative to conventional UPS battery systems, with far lower whole life costs

standard specifications

	Pnu Power³ 3kW Compressed Air Battery	Pnu Power⁵ 5kW Compressed Air Battery	Pnu Power¹⁰ 10kW Compressed Air Battery
Output	3kW	5kW	10kW
Height/Width/Depth	1700mm (66.9") x 800mm (31.5ins) x 600mm (23.6")	1700mm (66.9") x 800mm (31.5ins) x 600mm (23.6")	2200mm (86.6") x 800mm (31.5") x 800mm (31.5")
Weight	125kg (275lbs)	150kg (330lbs)	230kg (506lbs)
Supply Pressure	15 bar (217.5 psi)	28 bar (406 psi)	35 bar (507.5 psi)
Run Time from standard extendable cylinder pack	40 minutes	24 minutes	12 minutes

POWER	
AC Voltage	Customer specified: 110-240 Vac 1 Phase, 380-480 Vac 3 Phase 50/60Hz
DC Voltage	Customer specified: 12-340 Vdc +/-ve grounding available as standard
AC + DC	Multiple outputs available
Voltage regulation	+/- 0.5%

OPERATIONAL SPECIFICATIONS	
Mode	Standby or UPS power

ENERGY SOURCE	
Source	High pressure cylinders or medium pressure plant main
Air quality	Standard industrial
Recharge type	Cylinder replacement or automatic compressor

ENVIRONMENTAL	
Operating temperature	-40 to +50°C (-40 to +122°F)
Storage temperature	-40 to +60°C (-40 to +140°F)
Humidity	>95% non-condensing
Heat dissipation	<100W in standby mode
Noise	<65dBA at 5m as standard across range
Enclosure	Standard industrial: internal & external options

INSTRUMENTATION	
Local	LCD display shows run time remaining and operational status
Remote	Ethernet (TCP-IP) or standard modem

STANDARDS	
Safety	CE Certified
Emissions	CE Certified
Immunity	CE Certified



Compressed Air Batteries
the smarter backup choice

Technical Information & Support

Energetix Pnu Power
Capenhurst Technology Park
Capenhurst
Chester, UK
CH1 6EH



t. +44 (0) 151 348 2100
f. +44 (0) 151 348 2101
info@pnu-power.com
www.pnu-power.com