

## Introduction Independence 18

For RAPS (remoted area power solutions) the Independence 18 is the right choice when it comes to a solution to power remoted areas for construction yards like oil pipes, demolition jobs, road building, earth moving, mining, construction ships, military and civil engineering in deserts and mountains, etc. Thanks to our invention of our Nanomag alternator we can bring down the size, weight and logistics problems by more as 2/3 of the conventional genset technology. Therefore, we can use 1 heavy welder or plasma cutter at once with only a 18 KW power generator, even enough power left for lighting tower, and additional grinders and other tools to be used by different workers. Without this technology it is impossible to produce this kind of compact RAPS solution. This is a European product, and the voltage is standard 230 volts 3 x 400 volts 50 HZ, other voltages are available on request. The Independence 18 consist of these facilities

- 1: Optional: 1 x MIG 500 water-cooled, with MMA function  
Or 1 x Plasma cutter 120 AMP  
Or 2 MMA 400 amps up to 5 mm in full continuous welding  
Or 1 TIG welders 500 Amp
- 2: vane compressor 4 KW 13 bar + air filters for perfect air, connected to a 200-liter galvanized compressed air receiver
- 3 membrane air dryers with digital control -20 ° c
- 3: hydraulic light mast 7 meters. Resistant to sideways winds up to 100 km / h, equipped with tilt / rotator with 4 x 600-watt LED lamps
- 4: night/day vision laser camera with auto detection and sharp image up to 400 meters with zoom function, with lightning protection
- 5: PM power source 18 KW
- 6: various lockers for tools, work clothing, accessories etc.

### Options:

- 7: GPRS / GPS with internet connection by satellite-based intervention, connecting the world
- 8: cooling water preheating option, with battery monitor
- 9: option lipo4 battery 10 KWH/UPS keeps the generator operational in rest to secure the complete system by its lights and camera system and internet connection
- 10: option camera with hot detection for military applications
- 11: option siren option

### Operation:

The independence 18 is equipped with an easy to use instrumentals panel, where you can control:

- 1: ACS controller deepsea, for all functions of the generator: speed, Hz, voltage, hours, oil level, water level, and all alarm functions that contribute to the protection of the power source
- 2: control panel hydraulic mast
- 3: control panel rotator with tilt function for the LED lamps
- 4: compressor control panel
- 5: control panel camera system (option)
- 6: satellite connection (option)
- 7: UPS control panel option (option)
- 8: BMS panel lithium battery (option)
- 9: differential switch, and fuses of the various components

This instrument panel is protected with either a door with layered glass plate.

In addition to this comprehensive but well-arranged instrument panel, a drain point board is provided, where compressed air couplings, sockets, two mixing gas quick couplings. All are grouped in an easily accessible place. For the Mig or TIG welders is as a standard 1 bottle holder for 50 liters, capacity, but on request extra gas bottles can be stored on top or side.

## Finishing

The Interdependence 18 is executed in a sturdy self-supporting steel construction, all metal parts are treated with hot plating, and coated in a high-quality weather-resistant coating, to make the transport activities as effective as possible, this machine can be moved along the 4 sides with a forklift. Provide 2 adjustable hook eyes to be able to move this machine horizontally with the crane.

The double-walled fuel tank has a capacity of 250 liters and is calculated to have an autonomy for a full week 10 hours a day at full power. There is a space provided for 2 welding machines according to the client's wishes, which can be operated from the generator itself, but if need they can be used in a wide radius around. All machines can be disconnected from the generator or can be used by a local gridd if available. Disconnected from the generator, to use these machine (s) through another local power source.

The power is generated by a Koehler EURO4 compact and economical diesel engine, which generates more than enough current via the PM alternator to simultaneously feed 1 heavy plasma cutters or heavy welder, and still have enough power left to serve several other electrical machines, like grinders, drills, etc.

The 18 KW alternator is IP-65 protected and resist to the most severe pollution, brine, sandstorms, very polluted and contaminated air, or dusty environment, stone rubble, etc.

Due to an ingenious labyrinth construction, the noise level is limited to 64 dBa at 7 meters, so that this machine does not cause any hindrance on the construction site. The exhaust is internally concealed in the housing and does not interfere.

The hydraulic light pole that lift 7 meters high above the roof is made of heavy metal cylinders that can push 900 kilos, so that it can be used if required as a kind of lifter. On top there is a Tilt / rotator mounted and equipped with 4 heavy LED lamps 640 watt and can individually rotate at 360 ° with tilt function of 330 °. These lamps provide enough light to illuminate a yard the size of a football field quite intensely.

On top of this rotator is an NCR camera (option) that has a range of 400 meters around, which can also 360 ° rotate the yard independently of the rotator, this Day / night camera can be operated via Internet during the day to allow a controller supervising the yard, and at night protect the yard or the terrain guard on unwanted visits, at 400 meters the automatic zoom function can registration very clearly the face of people approaching the yard. The camera might attract lightning but is provided from an internal lightning distraction, and also has an external lightning protection, which diverts the lightning to the ground via the grounding pin.

Technical specifications laser night vision camera:

Detection day	800 meters
Detection night	400 meters
CCD	1/ 2.8 CMOS HD 2.1 MP, auto ICR switch color & black/white mode
Video encoding	Video compression H.264, code stream 32k~8Mbps, Support dual-stream, the heart, smart restructuring, electronic shutter, white balance, 3D DNR, DWDR, automatic exposure, support SD card, motion detection, mask alarm
Focal length	4.3~129 mm, 30 optical zoom F1.6~F5.0
FOV	65°~2.3°
Min. illumination	0.05lux /0.005lux
Consumption	5 W, 808 nm, NIR
Laser lens	30 mm F1.0 Fast lens, GHT laser homogenizing technology
Laser angle	2°~50°
Angle control	DSS laser angle control technical, 30 ms fast track response, min 0.1°sync zoom accompany camera, support manual zoom and sync zoom.
Optical axis aiming	0.01°SLM optical axis aiming and locking
Laser on/off	Auto/manual
PTZ	Pan: 360° continuously, Tilt: -90°~+5° (Support auto reverse)
Rotation speed	Pan: 0.01°~200°/s, Tilt: 0.01°~120°/s, max speed of calling preset 250°/s, rotation speed varies automatically according to the focal length
Preset	255, support memory record after power breakdown, scan, keep watch
Interface and protocol	RJ45, 10M/100M Ethernet, TCP/IP, RTP/RTCP, HTTP etc. protocol
Compatibility	Support ONVIF,GB/T28181
Customized function	Customizable privacy shade, 3D box chosen magnification
update	Support online update
Baud rate	2400/4800/9600/19200 bps
Weatherproof	IP66, TVS4000V anti-lighting, anti-wave
Operational temp.	-30°C~60°C, <90%RH non-condensing
Power supply	DC12V/4A, common≤40W,peak≤60W
Dimension	Φ230 (mm)*348(mm)
Weight	5 kg
* The detection distance is related to the object and environment etc. Please contact with us for further information.	

Technical information mast tilt/rotator & led lamps

System working voltage	DC 12 V
Lamp working voltage	AC 220 volt 50 Hz
Lamp power	600 watt (4 lamps is 2+2 units)
Lamp working current	15 Amp max (4 lamps)
Current rotator	2 amp
Horizontal rotating angle	380°
Vertical rotation angle	330°
Horizontal & vertical rotation speed	4 r/min
Luminous flux	250000 lm

Lamp life	Aprox 20000 hours
Working temperature	-20 °C - 65 °C
Lights switch mode	Two sets of lighting separate control
Light source type	LED
Control method	Wired and wireless (option)
Remote control distance (option)	Aprox 30 meters using 3 AAA batteries
Protocol control method	RS 485 control interface built in
Lifting power	Hydraulic lifting
Lifter raised height	7 meter
Lifting closing height	22 cm above the roof
Continue hydraulic oil in mast and unit	36 liters
Max wind on 7 meter	Aprox 100 km hour

#### Technical information MIG welder 500 Amp Star

Max output power	500 amp
Duty cycle MIG function	60% by 40°C
Duty cycle MMA function	60% by 40 °C
semiconductor	IGBT
Power factor	0.87
Input power	3 x 400 volt 50 Hz
Protection class	IP 2
Power input by 100% DC	15 KW
No load tension MIG	70 volt
No load tension MMA	83 volt (cellulose rods = ok)
efficiency	90%
Insolation class	F
Welding wire	0.8 – 1.6 massive wire
Welding protection gas flew	15-20 liter/min
4 rolls wire feeder	Yes, 40 mm all with traction
Cooling torch	Air option is water-cooling
size	910 x 460 x 880 mm
weight	71 kg

#### Technical information plasma cutter AVALON 120

Input power	3 x 400 volt 50 Hz
Maximum cutting capacity in mild steel	60 mm
Quality cut in mild steel	45 mm
Input power	18 KW
Output power	Step less 5 to 20 Amp
Recomondated air pressure	5 to 8 bar
Maximum air consumption	250 liter/min
ignition	Pilot (NO HF)
fusible	30 Amp

Duty cycle	100% by 120 amp
No load tension	60 volt
semiconductor	IGBT
Protection class	IP 21
Insulation class	F
Norm	EN 50192
Cooling torch	Air (water – option)
torch	TP 120 coax cable option steel protected
weight	55 kg
Dimensions	600 x 370 x 650 mm

#### Technical information MMA 400 & 630 MMA welder Lilliput

Input power	3 x 400 volt 50 HZ
Input power	16 amp
tension	3 x 400 volt
Duty cycle	100%
No load tension (option 80 volt)	57 volt
Welding current	10 to 400 Amp
efficiency	90%
Welding rods	2,5 to 5.0 mm
Couching	no
Protection class	IP 23
Insulation class	F
dimensions	390 x 186 x 320 mm
weight	13 kg

#### Technical details generator

Engine	Koehler KDI 2504 TM-40 (USA)
Prime power	18 KW
Base power	20 KW
Pick moment	40 KW
Prime KVA	22 KVA
Tension	230/400 volt 50 HZ
Fusible	30 Amp
Speed engine	1500n rpm
Cos Phi	0.99
Insulation class alternator	IP 65
Alternator	PM
fuel	diesel
Oil	5W40
Consumption by 100%	3 ltr
cooling	water-cooling
dynamo	12 volt 20 A TFW2-12

#### Technical details vane air compressor 13 bar

Air debit	550 liters/min
Working pressure	7 to 13 bar
Working temperature	0° to 45 C°
Relative humidity	0 – 90%
Oil residue	1.5 ppm
Working principles	vane
conduction	Direct coupling
speed	1440 rpm
Oil carter	3.5 liter
Air coupling connection	1 " + 4 fast couplings
Insulation class	F
Protection class	IP55
Input power	4 KW
Tension	3 x 400 volt 50 hz
Receiver	200 liter