#### Who We Are

PSP is a company specialized in custom design, manufacturing and servicing of power electronics equipment for ICT, industrial, oil & gas and energy applications. PSP R&D department is one of the most complete regarding the different disciplines in the field of power conversion.

Long experience in semiconductors and magnetic component design is combined with the most advanced digital regulation algorithms and



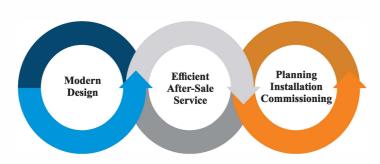
microcontroller programming know-how. PSP has a leading position in the oil and gas market thanks to its proven customizing expertise and continuous pursuit of excellence in a state-of-the-art product. However, wide experience in several branches of power electronics such as UPS systems for data centers and inverters make PSP a leader in this technology not only for oil and gas applications.

# <u>1976</u> 2019

Listening to our customers and delivering state-of-the-art, tailored systems has been our vocation for more than 45 years

#### Services

With over 40 years of expertise in power electronic systems, PSP is renowned for its unparalleled services and technical support in critical application environments. The reliability of your installed power solution is supported by a global service team renowned for its short response time and trouble shooting efficiency. Choosing PSP preventive maintenance options gives you the ultimate peace of mind reassuring complete cost control, security and uninterrupted power supply in utmost critical situations.



# PSP.IM INDUSTRIAL INVERTERS

PSP IM Industrial Inverter Single Phase Output

230V, 1-60 kVA

PSP IM Industrial Inverter Single Phase Output Redundant Configurations

230V, 1-60 kVA

#### **Engineering is Our Business**

Inverter and UPS solutions engineered by PSP Power Solutions have been protecting oil and gas infrastructure, power stations and other industrial applications for more than 40 years.

#### Designed for all industrial applications

PSP .INV, the latest generation of our inverter product range is extremely robust, both electrically and mechanically.

It is custom-designed for use in harsh industrial environments to meets the toughest product customization requirements:

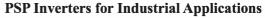
- » Specific mechanical protection degree
- » Specific input and output voltage

» Customized documentation

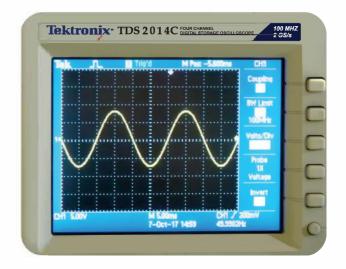
PSP.INV is just a part of the product range of inverters and UPS's suitable for industrial

applications.





- » Oil and gas (Petrochemicals, offshore, onshore, pipelines)
- » Energy and electricity generation (Power generation, transmission, Distribution)
- » Water (desalination, treatment)
- » Instrumentation and process control (Chemicals, mining, steel, paper)
- » Emergency lighting
- » Telecommunication systems



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## PSP.IM Specification

#### Features and Benefits

- Built-in inverter transformer for DC-AC galvanic separation
- IGBT, PWM controlled inverter for high efficiency and low output THD
- High personalization grade with new mimic display for signals, alarms, meters
- History events continuous monitoring
- Comprehensive set of communication options for total remote monitoring of equipment operation.

#### **Main Options**

- ✓ Bypass line isolation transformer with new generation of AC/AC dynamic voltage restorer with active filter features
- ✓ Improving the harmonic distortion of main in load side
- ✓ Fast transient response to main voltage fluctuations
- ✓ Output voltage regulation lower than 0.5% with very high resolution
- ✓ Automatic bypass capability under unit failure
- ✓ Lower maintenance service in comparison with traditional designs
- ✓ Higher mean time between failures
- ✓ Custom design for high power applications

Model	Im48- Im115- Im220- IM400	Im48- Im115- Im220- IM400	Im48- Im115- Im220- IM400	Im48- Im115- Im220- IM400	Im115- Im220- IM400	Im220- IM400	Im220- IM400
Nominal Rating (at cose = 1)	1-60kVA						
INVERTER UNIT							
DC input 20%	48 V 110 V 220 V 220 V 380 V	48 V 110 V 220 V 380 V	48 V 110 V 220 V 380 V	48 V 110 V 220 V 380 V	110 V 220 V 380 V	110 V 220 V 380 V	110 V 220 V 380 V
Nominal Ac voltage	230V (220V-240V)						
Output voltage static response	< ±1%						
Recovery time	< 4ms						
Frequency	50/60 Hz (selectable), ±0.001 Hz free runing, ±2Hz synchronized with mains						
Crest Factor	Max 3						
Total Harmonic Distortion-THr	<3% Linear load; <5% non-linear load						
Overload capacity	125% for 10 min; 150% for 1 min; 200%for 100 ms						
Static Bypass witc	ni.						
AC voltage	230 V (220 V, 240 V)						
Frequency	50 Hz / 60 Hz						

### **PSP.IM**Specification



General Data								
	Height is 2100 mm or 1600 mm, width varies with output voltage range and rating							
Dimensions WxD (mm)	600x600 600x600 600x600 600x600 900x600 900x600							
Color	Ral 7035 , Ral 7032							
Operating temperature	-10°C up to +50°C							
Storage temperature	-20°C up to +70°C							
Altitude	<2000m (according to EN 62040)							
Humidity	95% non condensing							
Audible noise at 1 meter (dBA)	<55 - 65 db(A) - depends on rating							
Efficiency	Up to 94%							
Cooling	Forced ventilation							
Protection degree (IEC 60529)	IP20/IP21/IP42 (other options)							
Connectivity	SPDT contact relay card Optional: Rs485 Modbus-RTU serial ports Ethernet SNMP/WEB adapter, remote monitoring software Server Shutdown software							
INDICATORS & ALARMS								
INVERTER/AVR FAULT	7"/10" Touchable LCD On							
INPUT/OUTPUT AC ABNORMAL	Front Panel & Free Contact							
OVER HEAT	Vg(V) 240 Vg(V) 240 Vg(V) 240 VDC(V) 140 VDC(V) 140							
OVER LOAD/SHORT CIRCUIT	30 270 E20 180 270 270 270 270 270 270 270 270 270 27							
DC LOW	30.77							
WEAK BATTERY	15 18 <sup>2</sup> 1 2 <sup>4</sup> 27 30 25 30 35 40 45 50 20 25 30 35 40							
INVERTER/AVR ON/OFF	9 Io(A) 36-1   F15 II   2017.05.06 23:19:40							
SBS NORMAL/BYPASS/UNITB	1 42 42 45 45 45 45 45 45 45 45 45 45 45 45 45							
FREQUENCY HIGH/LOW	MEDION INCOME.							
DC/AC EARTH FAULT	AVR Off VUB=220V MSBS F AC OUT							
SERVICE MODE	Fre =50.1Hz							
BATT. REVERSE CONNECTION	AVRON AVRON							
MSBS MODE								
	Vg=237V 5KVA INV							

