Commercial Range

With its elaborate range of commercial inverter models, Luminous caters to a variety of commercial applications successfully. These inverters are used commonly for running deep freezers and refrigerators of different sizes. Luminous high power range of inverters are also suitable for running elevators, Petrol Pumps, **Telecom** (Telecommunication equipment/device), hospitals, banks, shopping malls, etc.

Specification of Commercial Range

Model	Single-Phase Output	Optional	Three-Phase Output (over 50KVA)
		Single-Phase Output	
		Three-Phase Output	
Rating	15KVA, 20KVA, 25KVA, 30KVA, 40KVA, 50KVA	20 KVA, 25KVA, 30KVA, 40KVA, 50KVA	20KVA, 25KVA, 30KVA, 40KVA, 50KVA, 60KVA, 80KVA, 100KVA, 120KVA, 150KVA
AC INPUT	230V for Single Phase Input (+15%, -20%)		
	50HZ + 10%		
DC VOLTAGE	180VDC for 15/20KVA		360VDC Above 20KVA
Charging Time	12A Charger		
Charging Type	Internal Controlled Rectifier, (1-Phase for 180V DC & 3-Phase for 360V DC		
INVERTER			
Technology	ICBT based		
Output Voltage	230V AC Single Phase	400V/415 AC Three Phase	
Voltage Regulation	+/- 2% for DC I/p variation & o/p load variation	400V/415 AC Three Phase	
Frequency	a) 50Hz +/- 0.1Hz		
Waveform	PWM Sine Wave		
Harmonic Distortion	Less than 3% on linear load		
Inverter Efficiency	> 93% for 360VDC and above		
	> 90% for 180VDC		
Power Factor	0.8		
Overload	125% for 5 Minutes		
	150% for 60 sec		
Crest Factor	3.1		
Transient Recovery	+ 4% under full load change and corrected within 5 cycles		
Phase Displacement		$120^0 + 1^0$	
Audible Noise	Less than 45 dB at 1 Meter		
METERING			
Microprocessor based Digital LCD Meter for	Output Voltage, Output current & Frequency, DC Voltage, Battery and Load Percentage		R,Y,B Output Voltage, Output current & Frequency, DC Voltage, Battery and Load Percentage
GENERAL			
Operating temperature	0^0C to 50^0C		
Humidity	Max 95%, Non-condensing		
PROTECTIONS			
Output Overload & Short circuit, Output under & Overvoltage, DC Under & Overvoltage			

Input Under & Overvoltage, Single Phasing & Phase unbalance (for 3-Ph Input only)	
INDICATIONS & ALARMS	
a) Mains on	Indication
b) Inverter on	Indication
c) Mains Fail	Indication & Alarm
d) DC Low	Indication
e) DC Over voltage	Indication
f) Output Under voltage	Indication
g) Output Over voltage	Indication
h) Output Overload	Indication
CHANGE-OVER	
a) Static Switch	Bi-directional
b) Manual Bypass	Provided
ISOLATION OF POWER	
Input	MCB Provided for Charger
Battery	HRC Fuse

* Due to Continuous Product improvements, specs are subject to change without notice.

Technical Specifications at 3KVA

RATING		3KVA
INPUT AC RANGE	Undervoltage	140 +/- 10 V
	Undervoltage Restoration	145 +/- 10 V
	Overvoltage	285 +/- 10 V
	Overvoltage Restoration	270 +/- 10 V
OUTPUT ON INVERTER MODE	Maximum Power	3000VA
	Maximum Watts	2150W
	Maximum Efficency	82%
	Voltage (INVERTER Mode)	220 V Nominal +/- 11%
	Voltage (Mains Mode)	Same as Input
	Frequency (INVERTER Mode)	50 Hz. +/- 2%
	Frequency (Mains Mode)	Same as Input (45-55 Hz.)
	Overload	> 110 %
	Transfer Time (typical a.s)	45 ms.
INVERTER MODE PROTECTION	Low battery protection	ElectronicTrip
	Battery reverse protection	Through fuse
	Inverter mode over load	ElectronicTrip
	No-load (if load <10% of rated load for greater than 11 hours)	ElectronicTrip
	Inverter mode short circuit	ElectronicTrip
MAINS MOD PROTECTION	Over load / Short circuit	Through MCB
	Charger protection	Through MCB
BATTERY	Type	120 AH- 150AH Lead Acid Type
	Number	4
	Typical Recharge Time	10-12 Hrs.
BATTERY CHARGER	Constant Voltage with current limit type	10Amp / 7Amp(selectable) with boost voltage 56V and float voltage 55V
	TECHNOLOGY	High power factor boost charger
LED DISPLAY	Switch On	White
	INVERTER ON	Red
	Low Battery Pre-Alarm	INVERTER On & Low Battery Red
	Battery Low	Red
	Mains On	Red
	Smart Charge	Red (Along with Mains On LED)
	Overload	Red Steady
	No-load (if load <10% of rated load for greater than 11 hours)	Red

	Short Circuit	Overload RED LED Blinking
	MCB Trip	Charger LED (Blinking)
	Battery reverse	Red
	Battery fuse fail	Red
ALARMS	Low Battery Pre-Alarm	Continuous Beeping
	Overload Pre alarm	Continuous Beeping
	Short Circuit	Continuous Beeping
	No Load	Continuous Beeping
	MCB Trip	Continuous Beeping
ENVIRONMENTAL	Operating Temperature	0-40° C
	Storage Temperature	0-40° C
	Humidity	0-95 % RH non -condensing

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Specifications of Commercial Range

RATING		**6KVA**	**10KVA**
INPUT AC RANGE	Undervoltage	140 +/- 5 V	
	Undervoltage Restoration	145 +/- 5 V	
	Overvoltage	260 +/- 5 V	
	Overvoltage Restoration	255 +/- 5 V	
OUTPUT ON INVERTER MODE	Maximum Power	6KVA	10KVA
	Maximum Watts	4750W	7900W
	Maximum Efficency	79%	78%
	Voltage (INVERTER Mode)	220 V Nominal +/- 9%	
	Voltage (Mains Mode)	Same as Input	
	Frequency (INVERTER Mode)	50 Hz. +/- 2%	
	Frequency (Mains Mode)	Same as Input (45-55 Hz.)	
	Overload	> 110 %	
	Transfer Time (typical a.s)	45 ms.	
INVERTER MODE PROTECTION	Low battery protection	ElectronicTrip	
	Battery reverse protection	Through fuse	
	Inverter mode over load	ElectronicTrip	
	Inverter mode short circuit	ElectronicTrip	
MAINS MODE PROTECTION	Over load / Short circuit	Through MCB	
	Charger protection	Through MCB	
BATTERY	Type	120 AH- 150AH Lead Acid Type	
	Number	10	15
	Typical Recharge Time	10-12 Hrs.	
BATTERY CHARGER	Constant Voltage with current limit type	10Amp with boost voltage 138V and float voltage 135V	207V/ 200V
	TECHNOLOGY	High power factor boost charger	
LED DISPLAY	Switch On	16 x 2 CHARACTER USER FRINDLY DISPLAY WITH BACK LIGHT	
	INVERTER ON		
	Low Battery Pre-Alarm		
	Battery Low		
	Mains On		
	Smart Charge		
	Overload		
	Short Circuit		
	Battery fuse fail		
	Battery reverse		
	MCB Trip		
ALARMS	Low Battery Pre-Alarm	Continuous Beeping	
	Overload Pre alarm	Continuous Beeping	
	Short Circuit	Continuous Beeping	
	MCB Trip	Continuous Beeping	
ENVIRONMENTAL	Operating Temperature	0-40° C	
	Storage Temperature	0-40° C	

	Humidity	0-95 % RH non -condensing

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Specifications of Deep freezers & Refrigerators

RATING		2.5KVA
INPUT AC RANGE	Undervoltage	180 +/- 5 V
	Undervoltage Restoration	185 +/- 5 V
	Overvoltage	260 +/- 5 V
	Overvoltage Restoration	255 +/- 5 V
OUTPUT ON INVERTER MODE	Maximum Power	2500VA
	Maximum Watts	1800W
	Maximum Efficency	80%
	Voltage (INVERTER Mode)	220 V Nominal +/- 12%
	Voltage (Mains Mode)	Same as Input
	Frequency (INVERTER Mode)	50 Hz. +/- 2%
	Frequency (Mains Mode)	Same as Input (45-55 Hz.)
	Overload	> 110 %
	Transfer Time (typical a.s)	30 ms.
INVERTER MODE PROTECTION	Low battery protection	ElectronicTrip
	Battery reverse protection	Through fuse
	Inverter mode over load	ElectronicTrip
	Inverter mode short circuit	ElectronicTrip
MAINS MODE PROTECTION	Over load / Short circuit	Through MCB
	Charger protection	Through MCB
BATTERY	Type	120 AH- 150AH Lead Acid Type
	Number	4
	Typical Recharge Time	10-12 Hrs.
BATTERY CHARGER	Constant Voltage with current limit type	54V/52V
	TECHNOLOGY	High power factor boost charger
LED DISPLAY	Switch On	White
	INVERTER ON	INVERTER ON + On(SEVEN SEGMENT)
	Low Battery Pre-Alarm	INVERTER On + Low Battery +Lb(SEVEN SEGMENT)
	Battery Low	Low Battery +Lb(SEVEN SEGMENT)
	Mains On	MAINS ON + On(SEVEN SEGMENT)
	Smart Charge	SMART CHG + CH(SEVEN SEGMENT)
	Overload	OVER LOAD + OL(SEVEN SEGMENT-blinking)
	Short Circuit	OVER LOAD + OL(SEVEN SEGMENT-steady)
	Battery fuse fail	Red
	Battery reverse	Red
	MCB Trip	SMART CHG + CH(SEVEN SEGMENT)- blinking
ALARMS	Low Battery Pre-Alarm	Continuous Beeping
	Overload Pre alarm	Continuous Beeping
	Short Circuit	Continuous Beeping
	MCB Trip	Continuous Beeping
ENVIRONMENTAL	Operating Temperature	0-40° C
	Storage Temperature	0-40° C
	Humidity	0-95 % RH non -condensing

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Specifications of Emergency Lift Operating Systems

Model	Three -Phase Output
Rating	6KVA, 10KVA, 15KVA, 20KVA, 25KVA, 30KVA, 40KVA, 50KVA, 60KVA, 80KVA, 100KVA, 120KVA, 150KVA
AC INPUT	415V +15% -20% Three Phase Input
	50HZ + 10%
DC VOLTAGE	180VDC for 6KVA to 10KVA
	240VDC for 12KVA to 25KVA
	360VDC for 30KVA and above
Charging Capacity	12A
Charger Type	Internal Controlled Rectifier, single-Ph for 180V/240V and Three-Ph for 360VDC
INVERTER	
Technology	IGBT
Output Voltage	400V/415V AC Three Phase
Voltage Regulation	+= 2% for DC 1/p variation & o/p load variation
Frequency	50Hz + 0.1Hz
Waveform	PWM Sine wave
Harmonic Distortion	Less than 3% on linear load
Inverter Efficiency	> 93% for 360VDC and above
	> 90% for 180VDC
Power Factor	0.8
Overload	105% continuos
	300% for 60 sec
Crest Factor	4:1
Transient Recovery	+= 4% under full load change and corrected within 5 cycles
Phase Displacement	120_{0} + 1_{0}
Audible Noise	Less than 45 dB at 1 Meter
METERING	
Microprocessor based Digital LCD	R,Y,B Output Voltage, Output current & Frequency, DC Voltage, Battery and
Meter	Load Percentage
GENERAL	
Operating temperature	0_{0} C to 50 $_{0}$C
Humidity	Max 95%, Non-condensing
PROTECTIONS	
Output Overload & Short circuit, Output under & Overvoltage, DC Under & Overvoltage	
Input Under & Overvoltage, Single Phasing & Phase unbalance (for 3-Ph Input only)	
SPECIAL FEATURE	
Systems Trips with Battery low condition only when no load condition is sensed for 5 sec, A very important feature for lift application avoids stopping of Lifts in-between floors.	
INDICATIONS & ALARMS	
a) Mains on	Indication
b) Inverter on	Indication
c) Mains Fail	Indication & Alarm
d) DC Low	Indication
e) DC Over voltage	Indication
f) Output Shortcircuit	Indication
g) Output Over voltage	Indication
h) Output Overload	Indication
CHANGE-OVER	
a) Electromechanical Switch	Provided with Built-in Relay up to 10KVA
b) Manual Bypass	Provided
ISOLATION OF POWER	
Input	MCB Provided for Charger only
Battery	HRC Fuse

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Specifications of Petrol pumps/Gas stations Click

RATING		6KVA	10KVA
INPUT AC RANGE	Undervoltage	140 +/- 5 V	
	Undervoltage Restoration	145 +/- 5 V	
	Overvoltage	260 +/- 5 V	
	Overvoltage Restoration	255 +/- 5 V	
OUTPUT ON INVERTER MODE	Maximum Power	6KVA	10KVA
	Maximum Watts	4750W	7900W
	Maximum Efficency	79%	78%
	Voltage (INVERTER Mode)	220 V Nominal +/- 9%	
	Voltage (Mains Mode)	Same as Input	
	Frequency (INVERTER Mode)	50 Hz. +/- 2%	
	Frequency (Mains Mode)	Same as Input (45-55 Hz.)	
	Overload	> 110 %	
	Transfer Time (typical a.s)	45 ms.	
INVERTER MODE PROTECTION	Low battery protection	ElectronicTrip	
	Battery reverse protection	Through fuse	
	Inverter mode over load	ElectronicTrip	
	Inverter mode short circuit	ElectronicTrip	
MAINS MODE PROTECTION	Over load / Short circuit	Through MCB	
	Charger protection	Through MCB	
BATTERY	Type	120 AH- 150AH Lead Acid Type	
	Number	10	15
	Typical Recharge Time	10-12 Hrs.	
BATTERY CHARGER	Constant Voltage with current limit type	10Amp with boost voltage 138V and float voltage 135V	207V/ 200V
	TECHNOLOGY	High power factor boost charger	
LED DISPLAY	Switch On	16 x 2 CHARACTER USER FRINDLY DISPLAY WITH BACK LIGHT	
	INVERTER ON		
	Low Battery Pre-Alarm		
	Battery Low		
	Mains On		
	Smart Charge		
	Overload		
	Short Circuit		
	Battery fuse fail		
	Battery reverse		
	MCB Trip		
ALARMS	Low Battery Pre-Alarm	Continuous Beeping	
	Overload Pre alarm	Continuous Beeping	
	Short Circuit	Continuous Beeping	
	MCB Trip	Continuous Beeping	
ENVIRONMENTAL	Operating Temperature	0-40° C	
	Storage Temperature	0-40° C	
	Humidity	0-95 % RH non -condensing	

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UPS Systems >> UPS LINE CARD

- **Line Interactive UPS system**
  1) Normal Back UP with Internal Battery
- **Online UPS systems**
  1) Small UPS
  2) Medium power UPS
  3) High power UPS