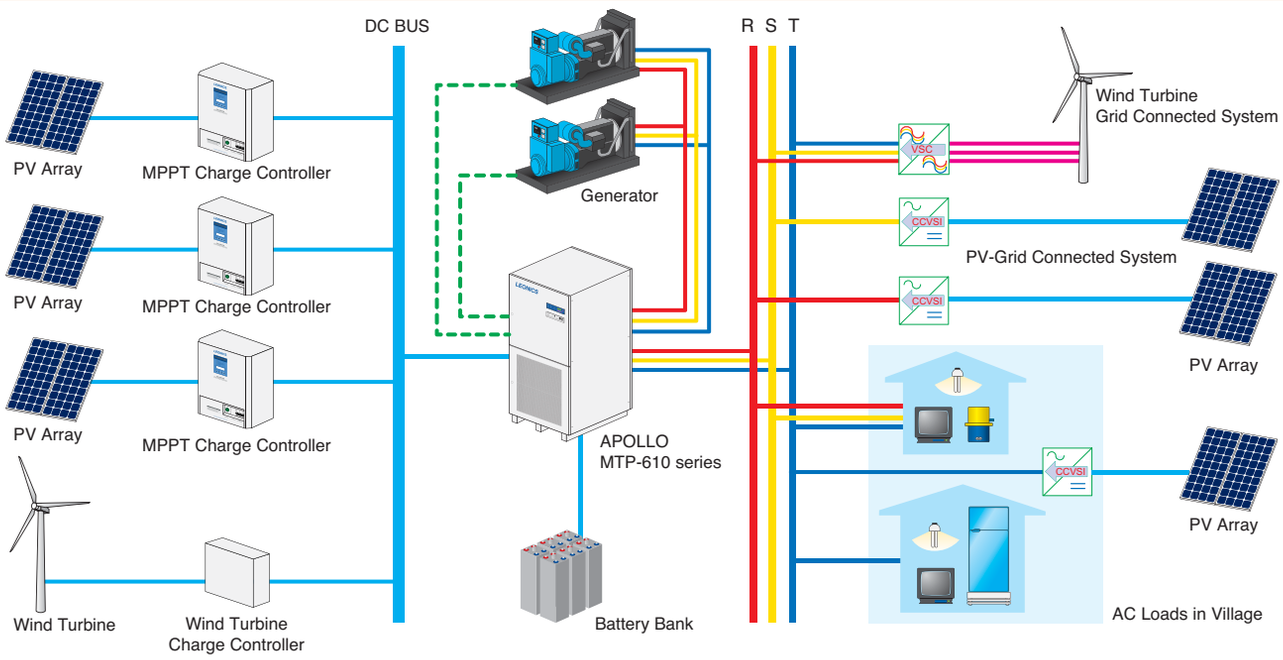
LEONICS®

APOLLO MTP-610

Three Phase Bidirectional Dual Mode Hybrid Inverter for Mini-grid System

- Three phase bidirectional inverter with built-in output transformer
- Low harmonic distortion (less than 3%)
- High efficiency > 95%
- High reliability design for remote area
- Seperate DC Bus for multiple source charging

- Capable to use with multiple renewable energy sources in both DC coupling and AC coupling such as solar (PV) panel, wind turbine generator and micro hydro generator
- Monitor energy available from the renewable energy (DC) sources and minimize the charging current from the diesel generator
- Automatic / Manual generator control
- Automatic battery equalization (option) to prevent battery capacity loss and prolong battery life
- Battery temperature compensation (Temperature sensor is not included)
- Preset time schedule by System Command Unit (SCU) for automatic controlling the auxiliary power sources such as generators in mini-grid system (option)
- Operate with Hybrid System Control and Command Unit (HCCU)
- IP65 protection outdoor enclosure (option)
- ISO 9001 and ISO 14001 certified factory



APOLLO MTP-610 series is a Three phase bidirectional dual mode hybrid inverter capable of functioning as a main supply power source as well as providing automatic control and management of a generator and battery bank. The inverter features very high efficiency in both charger and inverter modes with maximum efficiency of 95%. It is suitable for hybrid power system with supplement diesel generator in off-grid areas.

Mini-Grid System

LEONICS®

MASCI
ISO 9001 QMS 01098/349
ISO 14001 EMS 01007/045

NSC-TISI-TIS 17021
QMS 002 / EMS 005

APOLLO MTP-610 series Three Phase Bidirectional Dual Mode Hybrid Inverter for Mini-Grid System

MODEL		MTP-611E	MTP-612E	MTP-613E	MTP-611F	MTP-612F	MTP-613F	MTP-614F	MTP-615F	MTP-616F	MTP-617F	MTP-618F	MTP-619F	MTP-6110F	MTP-6111H	MTP-6113H	MTP-6115H	MTP-6117H
RATED POWER		10 kW	15 kW	25 kW	10 kW	15 kW	25 kW	30 kW	45 kW	60 kW	75 kW	90 kW	100 kW	120 kW	150 kW	200 kW	250 kW	300 kW
BATTERY	Nominal Voltage	120 Vdc			240 Vdc										480 Vdc			
	Max.charging current	56 A	84 A	130 A	28 A	42 A	72 A	84 A	125 A	168 A	200 A	250 A	280 A	335 A	200 A	280 A	350 A	418 A
	Max. battery current	114 A	170 A	284 A	57 A	85 A	142 A	170 A	255 A	340 A	425 A	510 A	570 A	680 A	425 A	570 A	710 A	850 A
EXTERNAL DC	Nominal voltage	120 Vdc			240 Vdc										480 Vdc			
CHARGER	Maximum current	100 A	100 A	200 A	57 A	60 A	100 A	100 A	200 A	300 A	300 A	400 A	400 A	400 A	300 A	400 A	400 A	500 A
AC INPUT FROM GENERATOR	Recommended generator power	> 20 kW	> 30 kW	> 50 kW	> 20 kW	> 30 kW	> 50 kW	> 60 kW	> 90 kW	> 120 kW	> 150 kW	> 180 kW	> 200 kW	> 240 kW	> 300 kW	> 400 kW	> 500 kW	> 600 kW
	Voltage	380 / 400 / 415 Vac (L-L), 220 / 230 / 240 Vac (L-N) ± 10%																
	Phase	Three phase																
	Frequency	50 / 60 Hz ± 3 Hz																
	Max. AC current	32 A	48 A	80 A	32 A	48 A	80 A	96 A	144 A	191 A	240 A	287 A	319 A	382 A	478 A	637 A	796 A	955 A
	Automatic start / stop	Relay dry contact 10 A (2 sets of ACC contact for 2 generators)																
AC OUTPUT	Voltage	380 / 400 / 415 Vac (L-L), 220 / 230 / 240 Vac (L-N)																
	Voltage regulation	± 3% (steady load), < 7% at 100% step load within 0.1 sec.																
	Phase	Three phase																
	Frequency	50 / 60 Hz ± 0.1% (auto sensing)																
	Wave form	Pure sine wave																
	THD	total < 3%																
	Max. surge current	200%																
	Max. AC current	15.2 A	22.7 A	37.8 A	15.2 A	22.7 A	37.8 A	45.4 A	68.2 A	90.9 A	113.6 A	136.3 A	151.5 A	181.8 A	227.3 A	303 A	378.8 A	454.5 A
ISOLATION	Galvanic isolation	yes																
EFFICIENCY	Inverter peak efficiency	> 94%						> 95%										
PROTECTION		Over current, Over load, Short circuit, Over temperature, Over voltage, Under voltage																
INDICATOR	LED	External Charging, Bypass, Generator Running, Generator Failure,Stand by/Run, Inverter, Charging, Load on Inverter, Overload, Low Battery, High temperature, Fault																
	LCD display	Inverter (voltage, current, frequency, power, reactive power), Generator (voltage, current, frequency, power, reactive power), Battery (voltage, current, state of charge(%), charging current), Heat sink temperature, Battery temperature (option), Equalization date, Today DC Inverter Energy (Input, output) Today AC Inverter Energy (input, output), Accumulated DC energy (input, output), Accumulated AC Energy (input, output), System status, Time, Date, Data Log																
AUDIABLE ALARM		Low battery, Inverter fault, High temperature																
COOLING		Automatic cooling fan																
ENVIRONMENT	Temperature	0 - 50˚C																
	Relative humidity	0 - 95 % (Non - condensing)																
DESIGN	Standard	AS/NZ 3100:2002, IEC 61683 (for efficiency test)																
REGULATION	Enclosure	IP31 (IP65 option)		IP54 (IP65 option)	IP31 (IP65 option)		IP54 (IP65 option)	IP31										
DIMENSION	Control Unit	60 x 188 x 105								90 x 188 x 105		120 x 205 x 105			D1**	D2**	D2*	D3**	110 x 205 x 105	
W x H x D (cm)	Transformer Unit	-								-		-							110 x 205 x 105	
WEIGHT	Control Unit	490	500	510	490	500	510	540	560	800	810	1,110	1,120	1,140	1,260	500	540	775	780	780
(approx. in kg)	Transformer Unit	-	-	-	-	-	-	-	-	-	-	-	-	-		1,200	1,240	1,260	1,360	1,460

D1* = 120 x 205 x 105 cm single cabinet, D2* = 80 x 205 x 105 cm for control unit and 120 x 205 x 105 for transformer unit, D3** = 110 x 205 x 105 cm for control unit and transformer unit. Continuous product development is our commitment. In that manner, the above specifications may be changed without prior notice.

Authorized Distributor

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