

# **Three Phase UPS System**

# 10kVA-500kVA



# Taurus Tower Online UPS (10kVA~80kVA)

The Ablerex Taurus is a mid-size, three-phase, new generation of transformer-less UPS that delivers power protection for the increasing loads in today's data centers.

With a transformerless design and Energy Saving Storage (ESS) technology, the Ablerex Taurus UPS is available in various configurations with integrated enclosures and external battery cabinets, ranging from 10kVA to 80kVA to suit your requirements.

### **Features**

- Single unit capacity from 10kVA to 80kVA
- Parallel up to 6units, max. capacity 480kVA
- High efficiency and low cost of ownership
- Near to unity input power of 0.99
- Up to 96% Efficiency in Double conversion mode
- Fully rated output power
- Full front access maximizes system serviceability
- Full DSP (Digital Signal Processing) controlled

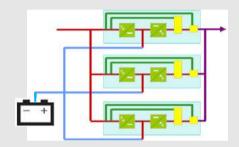
# **Parallel Architecture**

The flexibility of the Taurus UPS allows parallel expansion to achieve redundancy and to increase the total system capacity. Up to six UPS system can be paralleled without additional hardware.

# **Flexible Battery Configuration**

When operating in parallel configuration, the Ablerex Taurus UPS can be configured with common battery bank or individual battery bank to achieve the required backup time autonomy, providing highest load availability and reliability with cost effectiveness.

The number of battery block per string can be easily adjusted to achieve optimal sizing of battery capacity and minimal investment.



# **Advanced Interface**

The Ablerex Taurus UPS is equipped with an advanced LCD Coloured Touch Screen interface offering direct control and access to all parameters and system management with ease.



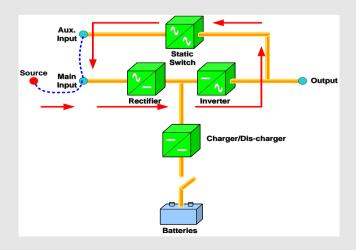




# **Automated Burn-in Test**

With the ability to perform a full load test and/or full battery discharge test without the connection of a load bank, the Taurus UPS offers an unprecedent spectrum of benefits. The Taurus UPS is programmed to process power in a re-circulating fashion, using its own rectifiers and inverters as an internal load bank.

This load testing method generates significant saving in cost, time, coordination and power during UPS commissioning or servicing.

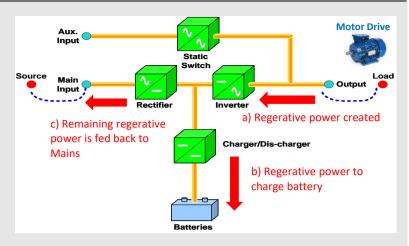


# **Taurus UPS for Regenerative Load**

The Taurus UPS is designed with two bi-directional IGBT to absorb the intermittent regenerative power from Motor load (VSD). With this design, the Taurus UPS allows regenerative power to flow back smoothly to the Mains without causing any damage to the UPS or interruption to the connected load and energy saving during regeneration transients.

## **How Taurus UPS works**

When braking slows or Motor stops, a) regenerative power is created and flows back to the UPS; b) if the battery is not fully charge, regenerative power is converted to DC via inverter to charge the battery; and c) remaining regenerative power is feed back to the Mains via the rectifier.

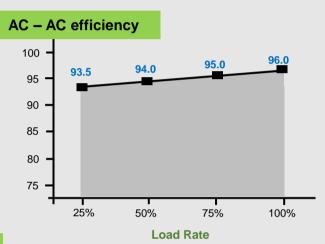


### **Power Performance**

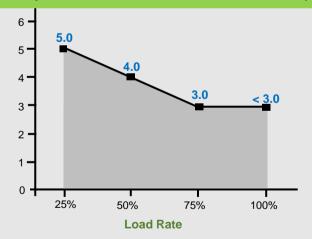
Power Performance by providing a clean rectifier connection to the utility power. It meets today's industry standards for energy saving, low current harmonic pollution to the utility power and achieves up to 0.99 at Input Power Factor as well as <3% Current THD.

# High Efficiency from Low Load to Full Load

The Ablerex Taurus delivers high efficiency at partial and full load (up to 96% in double conversion online mode), dramatically reducing operating cost of the system, extending components service life and increasing overall power performance.



# **Input Current Total Harmonic Distortion (THDi)**



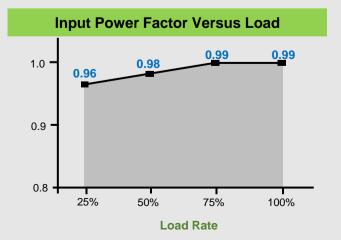
# Near-to-unity input power factor from Low Load to Full Load

The Ablerex Taurus input power factor is 0.99 even with partial loads, thus reducing the input installation cost by using smaller size input cables, fuses and Isolation Transformers.

The Ablerex Taurus can supply load from 0.9 leading to 0.9 lagging without derating.

## Low input current total harmonic distortion (THDi)

The Ablerex Taurus manage the input current total harmonic distortion (THDi) at a low level (3% at 100% load), eliminating harmonic distortion at the input of the system, providing greater operation reliability and extending the service life of UPS.



# TAURUS Series On-Line UPS

TS10KVA ~ 80KVA



- 3 Level IGBT Technology
- High Efficiency, On-line Mode Efficiency 96%
- High Input Power Factor >0.99
- Low Input Harmonic, THDi% <3%
- Unity Output Power Factor 1.0
- Power Scalable and Parallel Redundancy
- Separate / Common Battery Configuration for Parallel Redundant System
- Iconic design HMI Colour LCD Touch Screen

Capacity

Input

Output

**Battery** 

**Efficiency** 

**Bypass** 

**Environment** 









# **Specifications**

	10KVA	20KVA	30KVA	40KVA	60KVA	80KVA	
Voltage			400V 3 Phas	e + N			
Voltage Tolerance			±20%				
Frequency			40~70H	Z			
Power Factor			≧ 0.99				
THDi			<3%				
Voltage			380/400/415V 3 F	Phase + N			
Voltage Tolerance			±1% (Static I	_oad)			
Power Factor							
Frequency			50/60Hz				
Frequency Tolerance			±0.05% (free r	unning)			
Crest Factor							
	<1% with linear load; <3% with distorting load						
Overload		110% for 60 mir	utes, 125% for 10 i	minutes, 150% for	1minutes		
Number of Batteries			32~40pcs confi	gurable			
Max. Charging Current	3.5A	7A	10A	13A	20A	26A	
Common Battery for Parallel Configuration			Yes				
VFI Mode	>94% >95%			5%	>96%		
ECO Mode							
Voltage	380/400/415V.3 Phase + N						
Voltage Tolerance	±5%~±15% (Programmable)						
Frequency	50/60Hz						
Frequency Tolerance	±1Hz / ±3Hz (Selectable)						
Parallel			Up to 6 ur	nits			
Dimensions (W x D x H) mm	440 x 840 x 1390			600 x 827 x 13 600 x 827 x 13	300 (with Wheel)		
Weight(kg)	84	86	130	132	194 (w/o Wheel) 200 (with Wheel)		
Protection Grade			IP20				
Display and MMI	4.3" Colorful LCD Touch Screen						
Built-in Communication Port	USB, EPO, Dry Contact						
Optional Communication	2 Com	munication Slots fo	or SNMP Card, RS-		, Dry Contact C	ard	
Operation Temperature	0~40°C / 32~104°F						
Operation Humidity	0~95% (w/o condensation)						
Tested to standards	LVD: EN62040-1, EMC requirements: EN62040-2						
Mark			CE				
Noise (at 1 meter)	<52dBA		<55dBA		<600	dBA	





# Electrical features



<sup>\*</sup>Specifications subject to change without notice.

\*\*Depending on the model and voltage, please contact Ablerex for more information.

\*\*\*The same technical specification may be sold in different countries under different model names, please consult Ablerex for more information.

# Three Phase UPS System 100kVA-500kVA

- Up to 96% efficiency across a wide load range
- Near-unity input power factor >0.99
- Low input harmonic distortion <3%
- Dual input Mains for independent control of power sources
- Smart Rotation Redundancy optimized UPS reliability.
- Intelligent burn-in Technology without load.
- Large HMI Coloured LCD Touch Screen for advanced control and monitoring



# Bric M & BRC Series Modular Online UPS (20kVA~500kVA)

The BRIC M & BRC Series is a modular UPS ideal for medium to large sized power applications. With its modular structure, the true on-line, double conversion, three-phase UPS system offers a scalable and paralleable architecture for optimal power designs.

# Flexible Modular Design

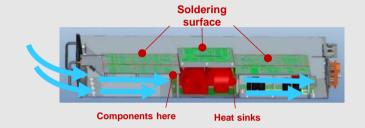
The modular architecture offers a scalable solution by providing the ability to add or remove power modules when the load increases or decreases, ensuring that the UPS system always operate at optimum efficiency.

Furthering the advantages, the hot-swappable functionality of critical components and power modules improve the serviceability of the UPS system thereby reducing Mean Time To Repair (MTTR) and ensuring power continuity should a module fails.



# **Air Flow Design**

In order to optimize the performance of the power modules, the modules has an unique air flow design with directed airflow channel. Fans are specifically positioned to direct cool air over the components and heat sinks to increase heat dissipation. It prevent dust and moisture from accumulating at the soldering points that could result in short circuit.

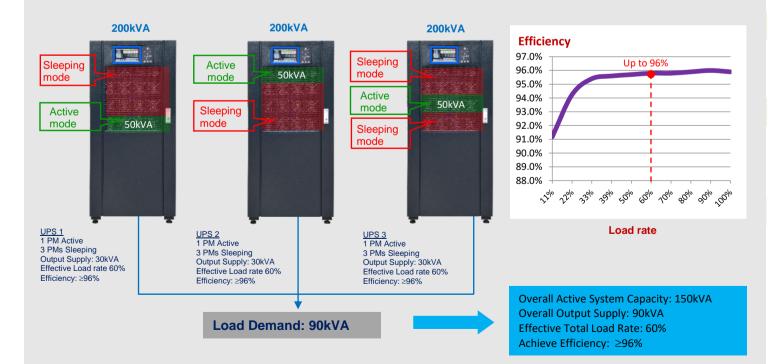


# **Parallel Architecture**

The flexibility of the power modules allows parallel expansion to achieve redundancy and to increase the total system capacity. Up to three UPS system can be paralleled without additional hardware.

# **Smart Rotation Redundancy**

In parallel system configuration, the UPS System ensure the highest efficiency also at partial load rate conditions down to very low load rate conditions - using Smart Rotation Redundancy. Each UPS automatically adjust the number of active power modules (PM) to share the load demand equally, putting the remaining power modules in a "sleeping mode". With this feature, the active PM operate at a higher effective load percentage, thus improving the efficiency and reliability of the overall UPS System.



# Smart Human Machine Interface

The UPS is fully equipped with user-friendly monitoring and controls in various languages. A large coloured LCD touch screen provides direct controls and parameters displays on a single page view.

# BRT33 Tower Online UPS (100kVA~500kVA)

The BRT series is an advanced 3 Phase tower UPS ideal for small and medium data centers. Seamlessly integrated into today's data center design, this design is easily and efficiently serviceable, offers a scalable and paralleable architecture as demand grows.

# **IGBT Technology**

Multiples high power density subsystems comprise of advanced IGBT electronics with speed controlled cooling fans are integrated into the compact UPS tower design. The design features of multiple subsystems is to facilitate ease of maintenance and repair, and space saving with a small footprint of 0.5m<sup>2</sup> at 100kVA.



# **Built-in Maintenace and Static Bypass**

Built-in Maintenance and Static Bypass switch prevents interruption by allowing load transfer to utility during overloads.

# **Parallel Architecture**

Parallel up to 1500kVA to increase the system's total capacity and providing fail-safe redundancy, thus enhancing its fault management capability by preventing a single point of failure.

# **Smart Rotation Redundancy**

Featuring Smart Rotation Redundancy, each UPS automatically adjust the number of active subsystem to share the load demand equally, putting the remaining subsystems in a "sleeping mode". This feature allows the active subsystems to maximise uptime and availability of the overall UPS System.

# **Smart Human Machine Interface**

Equip with market largest Smart HMI, the 10.4inch Colored LCD Touch Screen provides real time information, enables direct control and access to all parameters and waveforms for management of the UPS System.





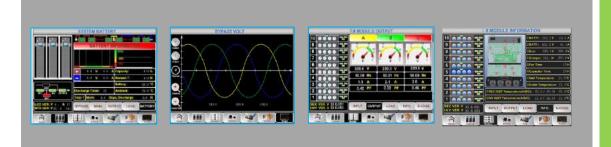


# **BRT33 Series On-Line Tower UPS**

100KVA ~ 500KVA



- Front Access for operation and maintenace reduces Mean Time to Repair (MTTR)
- High Power Density, Small Footprint
- High Efficiency >96% in On-line mode
- High Input Power Factor >0.99
- ◆ Low Input Harmonic, THDi% <3%</p>
- Built in Backfeed Protection and Maintenance Switch
- Advanced Operation Interface -- 10.4" Colored LCD Touch Screen



Model (BRT33)

**Power Rating** 

Input

Bypas

**Ouput** 

Protection

Batter\

**System** 

Interface

**Physical** 

**Environment** 

Standards and Certifications

# Specification

	100P	120P	150P	200P	250P	300P	400P	500P
	100kVA / 90kW	120kVA / 108kW	150kVA / 135kW	200kVA / 180kW	250kVA / 225kW	300kVA / 270kW	400kVA / 360kW	500kVA 450kW
Voltage, Phase			380V /	′ 400V / 415V,	3 Phase + N -	+ G		
Voltage Range			304\	/ ~478V line to	line at full loa	d		
Frequency				40~70	Hz			
Power Factor				≥0.99	9			
THDi				<3%				
Voltage, Phase			380	)/400/415V 3 F	hase + G + N			
Voltage Range				20% to	15%			
Frequency				50/60	-lz			
Frequency Tolerance			±1ŀ	Hz, ±3Hz, ±5H	z (Setectable)			
Voltage, Phase			380	)/400/415V 3 P	hase + N + G			
Voltage Tolerance				±1.5%				
Power Factor				0.9				
Frequency	50/60Hz							
Frequency Tolerance	±0.01% (free running)							
Crest Factor	3:1							
THDu	<1% for linear load; <5.5% for non-linear load							
Overload		110% for 60 r	minutes, 125%	for 10 minutes	, 150% for 1 r	ninute, >150%	for 200ms	
Voltage	±240Vdc (with +/N/- connections)							
Charging Power	20% of UPS Capacity							
VFI Mode	>96%	>95.5%			>96	6%		
Backup Mode	>96%	>95%	>96%					
ECO Mode				>99%				
Display			10.4"	Coloured LCE	Touch Scree	en		
Built-in Communication	RS232, RS485, USB, Dry Contact							
Optional Communication	SNMP							
Parallel				Up to 150	0kVA			
Dimension (mm)	600 (W) × 980 (D) × 1150 (H)	600 (W) × 980 (D) × 1400 (H)	650 (W) > × 160				1300 (W) × 2000	1100 (D) : ) (H)
Weight	210kg	266kg	305kg	350kg	445kg	490kg	810kg	900kg
Operating Temperature				0~40°	С			
Operating Humidity			0~9	95% (without c	ondensation)			
Protection Grade	IP20							
Noise (at 1 meter)	<68dB at 100% load; 65dB at 45% load <72dB at 100% load; 69% at 45% load							
Safety and EMC			IEC/EN 62040	-1 (Safety) and	I IEC/EN 6204	10-2 (EMC)		
Markings				CE				

# **BRC Series On-Line Modular UPS**

25KVA ~ 200KVA



- ♦ Three-Phase Modular System designed for Rack Integration
- Hot-Swappable Power Modules to reduce Mean Time to Repair (MTTR)
- High Power Density
- ♦ High Efficiency >96% in On-line mode
- ◆ Low Input Harmonic, THDi% <3%</p>
- High Scalability supporting N+X redundancy
- ♦ Advanced Operation Interface -- 10.4" Colored LCD Touch Screen

SYPASS VOLT

| STATE |





Power Module Model
Power Rating

Input

**Bypass** 

Output

Protection

**Battery** 

**System** 

Interface

**Physical** 

Environment

Standards and

Cabinet Model

BRC-150

BRC-200

# Specification

# BRC-25C

# 25kVA/25kW

Voltage, Phase	380V / 400V / 415V, 3 Phase + N + G
Voltage Range	304V ~478V line to line at full load
Frequency	40~70Hz
Power Factor	≥0.99
THDi	<3%
Voltage, Phase	380/400/415V 3 Phase + N + G
Voltage Range	Settable, -40% ~ +25%
Frequency	50/60Hz
Frequency Tolerance	±1Hz, ±3Hz, ±5Hz (Setectable)
Voltage, Phase	380V / 400V / 415V, 3 Phase + N + G
Voltage Range	±1% (Static Load)
Power Factor	1.0
Frequency	50/60Hz
Frequency Tolerance	±0.1% (free running)
Crest Factor	3:1
THDu	<1% for linear load; <6% for non-linear load
Overload Capacity	110% for 60 minutes, 125% for 10 minutes, 150% for 1 minute, >150% for 200ms
DC Voltage	±240Vdc (with +/N/- connections)
Number of batteries	32~44pcs configurable
Charging Power	20% of UPS Capacity
VFI Mode	>96%
Backup Mode	>95%
ECO Mode	>99%
Display	10.4" Coloured LCD Touch Screen
Built-in Communication	RS232, RS485, Dry Contact
Optional Communication	SNMP
Parallel	Up to 3 units
Power Module Dimension (mm)	436 (W) × 677 (D) × 85 (H)
Power Module Weight	18kg
Protection Index	IP20
Noise (at 1 meter)	65dB
Operating Temperature	0~40°C
Operating Humidity	0~95% (without condensation)
Safety and EMC	IEC/EN 62040-1 (Safety) and IEC/EN 62040-2 (EMC)

Maximum Capacity	Max. No. of Power Modules	Cabinet Dimension (mm)	Cabinet Weight	Parallel Operation
150kVA	Up to 6 nos. x BRC-25C	482 (W) x 916 (D) x 931 (H)	140kg	Up to 3 Cabinets
200kVA	Up to 8 nos. x BRC-25C	482 (W) x 916 (D) x 1550 (H)	160kg	Up to 3 Cabinets

# **BRIC M Series On-Line Modular UPS**

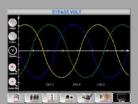
20KVA ~ 500KVA



- Hot-Swappable Power Modules to reduce Mean Time to Repair (MTTR)
- High Power Density
- High Efficiency >96% in On-line mode
- High Input Power Factor >0.99
- ◆ Low Input Harmonic, THDi% <3%</p>
- High Scalability supporting N+X redundancy
- Smart Sleep Mode for Energy Saving
- Advanced Operation Interface -- Colored LCD Touch Screen









Power Module Model
Power Rating

Input

**Bypass** 

Ouput

Protection

Battery

**System** 

Interface

**Physical** 

**Environment** 

Standards and Certifications

**Cabinet Model** 

BRIC M-120-20P

BRIC M-200-20P

DRIC IVI- 100-30P

3RIC M-300-30P

DIVIC IVI-000-30F

BRIC M-80-40P

BRIC M-160-40P

DRIC W-240-40F

BRIC M-400-40P

BRIC M-100-50P

DI (10 1VI-200-301

DDIC M FOO FOD

# Specification

300kVA

500kVA

Up to 6 nos. x Bric M-50P

Up to 10 nos. x Bric M-50P

	BRIC M-20P	BRIC M-30P	BRIC M-40P	BRIC M-50P			
	20kVA/18kW	30kVA/27kW	40kVA/40kW	50kVA/45kW			
Voltage, Phase		380V / 400V / 415V, 3 Pha	se + N + G				
Voltage Range	304V ~478V line to line at full load						
Frequency	50Hz / 60Hz						
Power Factor		≥0.99					
THDi		<3%					
Voltage, Phase		380/400/415V, 3 Phase	+ N + G				
Voltage Range		-20% to 15%					
Frequency		50/60Hz					
Frequency Tolerance		±3Hz					
Voltage, Phase		380V / 400/V / 415V, 3 P	hase + N				
Voltage Tolerance		±1.5%					
Power Factor	0	).9	1.0	0.9			
Frequency		50/60Hz					
Frequency Tolerance		±0.01% (free runni	ng)				
Crest Factor		3:1					
THDu		<1% for linear load; <5.5% for	non-linear load				
Overload Capacity	110% for 60 min	nutes, 125% for 10 minutes, 1509	% for 1 minute, >150%	for 200ms			
DC Voltage		±240Vdc (with +/N/- con	nections)				
Number of batteries		36~44pcs configura	able				
Charging Power		20% of UPS Capa	city				
VFI Mode	>9	95%	>{	96%			
ECO Mode		>99%					
Disales	5.7" LC	CD Coloured Touch Screen (for B	ric M-60 ~ 200 Cabine	t)			
Display	10.4" LC	CD Coloured Touch Screen (for B	ric M-180 ~ 500 Cabin	et)			
Built-in Communication	RS232, RS485, USB, Dry Contact						
Optional Communication		SNMP					
Power Module Dimension (mm)	440 (W) × 590 (D) × 134 (H)	440 (W) x 590 (D) x134 (H)	510 (W) × 70	0 (D) × 178 (H)			
Power Module Weight	22kg	34kg	44kg	45kg			
Protection Index		IP20					
Noise (at 1 meter)		72dB at 100% load; 62dB a	at 45% load				
Operating Temperature		0~40°C					
Operating Humidity		0~95% (without conder	nsation)				
Safety and EMC	IEC/EN 62040-1 (Safety) and IEC/EN 62040-2 (EMC)						
Markings		TUV-SUD					
Maximum Capacity	Max. No. of Power Modules	Cabinet Dimension (mm)	Cabinet Weight	Parallel Operation			
60kVA	Up to 3 nos. x Bric M-20P	600 (W) × 900 (D) × 1100 (H)	105kg	Up to 2 Cabinets			
120kVA	Up to 6 nos. x Bric M-20P	600 (W) x 900 (D) x 1600 (H)	145kg	Up to 2 Cabinets			
200kVA	Up to 10 nos. x Bric M-20P	600 (W) x 900 (D) x 2000 (H)	179kg	Up to 2 Cabinets			
180kVA	Up to 6 nos. x Bric M-30P	600 (W) × 1100 (D) × 1600 (H)	165kg	Up to 3 Cabinets			
300kVA	Up to 10 nos. x Bric M-30P	600 (W) × 1100 (D) × 2000 (H)	220kg	Up to 3 Cabinets			
600kVA	Up to 20 nos. x Bric M-30P	2000 (W) × 1100 (D) × 2000 (H)	660kg	No			
80kVA	Up to 2 nos. x Bric M-40P	600 (W) × 980 (D) × 1150 (H)	115kg	Up to 3 Cabinets			
160kVA	Up to 4 nos. x Bric M-40P	650(W) × 960 (D) × 1600 (H)	165kg	Up to 3 Cabinets			
240kVA	Up to 6 nos. x Bric M-40P	650 (W) × 970 (D) × 2000 (H)	215kg	Up to 3 Cabinets			
400kVA	Up to 10 nos. x Bric M-40P	1300 (W) × 1100 (D) × 2000 (H)	900kg	Up to 3 Cabinets			
400kVA 100kVA		1300 (W) × 1100 (D) × 2000 (H) 600 (W) × 980 (D) × 1150 (H)	900kg 115kg	Up to 3 Cabinets Up to 3 Cabinets			

650 (W) × 970 (D) × 2000 (H)

215kg

900kg

Up to 3 Cabinets

Up to 3 Cabinets

### **HQs-Taiwan**

## Ablerex Electronics Co., Ltd.

1F, No. 3, Lane 7, Baogao Rd., Xindian Dist., New Taipei City 23144, Taiwan, R.O.C. Tel:+886-2-2917-6857

http://www.ablerex.com.tw

### China

## Ablerex Electric (Beijing) Co., Ltd.

A-9C1 Golden Resources Business Center, No. 2 East Road, LanDianChang, HaiDian District, Beijing, China Tel:+86-10-8886-5103, 5135

# Europe

# ABLEREX ELECTRONICS ITALY SRL

Viale Milanofiori – Strada 6, Palazzo N1 20089 Rozzano (MI) Tel:Treviso (logistic dpt.):+39 0444323061 http://www.ablerex.eu

# Japan

# WADA DENKI Co.,Ltd.

1-7-10, Ningyocho, Nihonbashi, Chuo-ku, Tokyo Tel:+81-3-6661-6447 Email:y.wada@ablerex.com.tw

# Singapore

## Ablerex Electronics (S) Pte Ltd.

No. 23 New Industrial Road, #05-03 Solstice Business Center, Singapore 536209 Tel:+65-6282-6535 http://www.ablerex.com.sg Email:sales@ablerex.com.sg

### Thailand

# Ablerex Electronics (Thailand) Co. Ltd

18 Srichalcernchai Building, Room 9C, 9th Floor, Tiwanon Rd., Taladkwan Muang, Northanburi 11000, Thailand. Tel: +66-2-04988262 http://www.ablerexthailand.com

# USA

# **Ablerex Corporation**

1175 South Grove Ave. Suite 103 Ontario, CA 91761, USA Te1: +1-909-930-0201 http://www.ablerexusa.com

## Vietnam

# Ablerex Vietnam Co., Ltd

79/9 Bach Dang St., Ward 2, Tan Binh District Ho Chi Minh City , Vietnam Tel: +84-8-6297-2070 http://www.ablerex.vn

# // R&D Center

# Ablerex Electronics Co., Ltd.

No. 157, Shuiyuan Rd., Sanmin District, Kaohsiung City 80766, Taiwan Tel:+886-7-397-8640

Fax:+886-7-397-8640

# /// Manufacturing Plant

# Ablerex Electronics Co., Ltd.

No. 1-1, Gongye Rd, Pingtung City, Pingtung County 90049, Taiwan Tel:+886-8-7230091 Fax:+886-8-7290092

# Ablerex Electronics (Suzhou) Co., Ltd.

No. 36, Wang Wu Road, Wu Zhong District,

Suzhou, 215128, P.R. China Tel:+86-512-65250225 Fax:+86-512-65250226 http://www.ablerex.com.cn

