

GXT MT+ UPS

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DPG Product Management



INDEX

1.

- *Available Variant*
- *Accessories*

2.

- *Features*
- *Application*

3.

- *Value for Money*
- *Technical Specification 1/2/3 kVA*

Liebert GXT MT+ 1, 2, 3kVA

Available Variants

➔ **GXT MT+ SB : 1kVA**
Item code : 536600013003

➔ **GXT MT+ SB : 2kVA**
Item code : 536600023002

➔ **GXT MT+ SB : 3kVA**
Item code : 526600033001

➔ **GXT MT+ LB : 1kVA**
Item code : 536600023001

➔ **GXT MT+ LB : 2kVA**
Item code : 526600033000

➔ **GXT MT+ LB : 3kVA**
Item code : 526600063000

Note:

SB : Standard Backup

LB : Long Backup



Liebert GXT MT+ 1/2/3kVA : Accessories

Part Code	Description
120031010001	PCA - SNMP Board, DP801 for GXT-MT+/RT+ UPS
120031010011	PCA - AS400 Board, for GXT-MT+/RT+UPS
276316002300	PCA - MODBUS Board for GXT-MT+/RT+ UPS (Local)
120098000051	PCA - MODBUS Board for GXT-MT+/RT+ UPS (Imported)

Liebert GXT MT+ 1, 2, 3kVA

Features

- ❖ *True online Double Conversion UPS with extended runtime capabilities*
- ❖ *Comprehensive specification*
- ❖ *Satisfies safety criteria*
- ❖ *Electromagnetic compatibility standards*
- ❖ *Available in compact tower configuration*
- ❖ *Intelligent monitoring and network management functions*

Note: Standard model available with inbuilt battery, Long Backup model also available.

Customer Applications : GXT-MT+

- ❖ Small Size Data Centers
- ❖ Server Rooms, Server Racks
- ❖ Telecommunications, VOIP
- ❖ Data Warehousing
- ❖ Software Development Centers
- ❖ Small Office Networks
- ❖ Diagnostics (Medical)
- ❖ VSAT
- ❖ Sensitive Industrial Control Equipment
- ❖ Railway Signaling



Value for Money : MT+



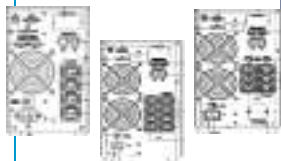
Plug & Play, Self diagnostic feature with LCD Display

- ❖ *User Friendly Connectivity*



3 ratings, 6 Configurations Available

- ❖ *1 /2/3 kVA Standard Back-up & 1/2/3 kVA Long Back-up*
- ❖ *Rated at 0.7 Power factor-Lag*



Input & Output IEC type Sockets

- ❖ *4 Output sockets for 1kVA SB & LB*
- ❖ *6 Output sockets for 2kVA SB*
- ❖ *4 Output sockets + Terminal Block for 2kVA LB & 3kVA SB & LB*



High Rate Internal Battery Charger for Long back-up Model

- ❖ *4A /8A for 1/2/3 kVA*

Value for Money : MT+



Standard DB9 Port for Rs232 Communication Optional SNMP card & AS400 Card, GSM Module, OS Shutdown S/W

Remote parameter monitoring, Alarm notification thro' Email, SMS. OS Shutdown



Input Over-current Protection Device

Circuit breaker provided at input provides Over-current Protectio



Self Certified CE Marking for SB Models



Lowest Input Current Harmonics, up to < 12%

Generator friendly, helps provide clean power to the facility,

Value for Money



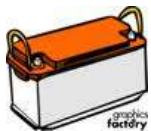
High Input Power Factor, up to 0.95

- ❖ *Low rated input cable switch, approximately 10% lower current rating compared to conventional UPS with 0.8 power factor.*



Widest range of acceptable input voltage variation

- ❖ *For battery charging (110V to 300V) - maximized utility enhancing battery life and autonomy time.*



External battery for higher capacity UPS

- ❖ Improves battery life for critical applications which require advanced UPS, batteries perform better when they are away from heat generating components

Black-Start feature

- ❖ Starts UPS under abnormal conditions

Technical Specification

Input Specs : GXT MT+

Parameter	GXT MT +		
	1kVA / 800W	2kVA / 1600W	3kVA / 2400W
Part nos	536600013003 (SB) / 536600013002 (LB)	536600023002 (SB) / 536600023001 (LB)	526600033001 (SB) / 526600033000 (LB)
Input parameter			
Rectifier Type	Full Wave Bridge rectifier	Full Wave Bridge rectifier	Full Wave Bridge rectifier
Conversion type	True online Double conversion	True online Double conversion	True online Double conversion
Configuration	1-Ph,L-N + PE	1-Ph,L-N + PE	1-Ph,L-N + PE
Nominal Voltage	220/230Vac		
Voltage range	160V to 300V at 100% Load, 110V to 290Vac at 60% load		
Frequency	50 / 60 Hz		
Frequency Range	(40 - 70 Hz)		
PF	0.95		
THDi	IEC 61000-3-2 / IEC 61000-3-3 (12%linear,13%non-linear)		
Nominal RMS current(batt full charged)	4 Amp	8 Amp	12 Amp
Maximum RMS Current	5.7Amp	11.5 Amp	17.2 Amp
Input Current Protection	PFC internal fuse in line,Firm ware control in bypass	PFC internal fuse in line,Firm ware control in bypass	PFC internal fuse in line,Firm ware control in bypass
Operation with Reverse phase Sequence	Manual		
Confifuration	STANDALONE		

Output Specs : GXT MT+

Parameter	GXT MT +		
	1kVA / 800W	2kVA / 1600W	3kVA / 2400W
Part nos	536600013003 (SB) / 536600013002 (LB)	536600023002 (SB) / 536600023001 (LB)	526600033001 (SB) / 526600033000 (LB)
Output Parameter			
kVA	1	2	3
Kilo Watt	800W	1600W	2400W
Power Factor	0.8		
Configuration	1 Ph, L-N +PE		
Output Waveform	Sinewave		
Nonimal Voltage	220V/230V	220V/230V	220V/230V
Voltage Regulation	+/-1%	+/-1%	+/-1%
Voltage THD	<=3% - Linear Load, <=6% - non Linear Load	<=4% Linear Load, <=7%-non Condensing	<=4% Linear Load, <=7%-non Condensing
Frequency	50Hz ; +/- 0.2Hz		
Frequency Regulation - Free Run (Unsync)	50Hz/60Hz, 0.5%		
Frequency Regulation (Sync. With Bypass	50Hz/60Hz, 5%		
Slew Rate	<1 Hz/s		
Creast Factor	3:1		
Transient response at 100% step load	<150 msec		
Recovery time			
Over load capacity (On-line Mode)	100% < Load < 110% : Overload warning only (No Shutdown); 110% < Load < 130% (-0%/ +10%) : Warning transfer to bypass after 12 sec (+/-4s); 130% < Load		
Over load capacity (Battery Mode)	100% < Load < 110% : Overload warning only (No Shutdown); 110% < Load < 130% (-0%/ +10%) : Warning transfer to bypass after 12 sec (+/-4s); 130% < Load		
AC-AC Efficiency	88 %R-Load \ 87 % RCD		
Transfer time - Mains to battery	0 msec	0 msec	0 msec
Transfer time - Inverter to bypass – Synch. mode	4 msec	4 msec	4 msec
Isolation Transformer	NA	NA	NA
Parallel Redundancy	NA	NA	NA

Bypass & Communication Specs : GXT MT+

Parameter	GXT MT +		
	1kVA / 800W	2kVA / 1600W	3kVA / 2400W
Part nos	536600013003 (SB) / 536600013002 (LB)	536600023002 (SB) / 536600023001 (LB)	526600033001 (SB) / 526600033000 (LB)
Bypass Parameter			
Bypass Voltage	220/230Vac		
Voltage Range	110V - 300 Vac		
Bypass Frequency	50/60Hz		
Frequency Range	50Hz 5%		
Bypass overload capacity	(Bypass mode current detection) 110% < current < 120% (-0%/+10%) : Load Shutdown after 30 min; 120% < current < 130% (-0%/+10%): Load shutdown after 1 min; 130% < current (-0%/+10%) : Load shutdown after 150ms		
Auto retransfer Time	Phase Locked (After overload recovery 100%)		
Communication Management			
Communication Port	RS 232, USB		
Monitoring Software (Optional)	SNMP ,Relay Card, Modbus, View Power Software		

Battery Specs : GXT MT+

Parameter	GXT MT +		
	1kVA / 800W	2kVA / 1600W	3kVA / 2400W
Part nos	536600013003 (SB) / 536600013002 (LB)	536600023002 (SB) / 536600023001 (LB)	526600033001 (SB) / 526600033000 (LB)
Batteries			
Battery Type	SMF		
No. of battery blocks	3 (in serial)	6 (in serial)	6 (in serial)
Battery Voltage	36Vdc	72Vdc	72Vdc
Maximum Back up time at full load	7 AH / 12 VDC , 7 min @100 % Load		
Battery OV protection	2.45V, 1% / Cell : (Charger stopped, transfer to battery mode to decrease battery voltage 2.16V/Cell come back to normal mode (restart charger)) ; 2.5V 1%/Cell (Battery fault, stop charger and output)		
Battery current protection	2 x 30A fast fuses in parallel	2 x 30A fast fuses in parallel	2 x 30A fast fuses in parallel
Deep discharge protection	Minimum Battery level linked with customer load level		
End Cell Voltage	From 1.67V/cell to 1.8V/cell 1% , (1.8V/cell 1%; if load> 87% and backtime is >30 mins)		
BUILT IN BATTERY CHARGER			
Nominal Voltage - Float	270	540	540
Boost charging			
Temp. compensated battery Charger			
ABM - Advance Battery Management	Optional		
No of Batteries	3x7 Ah (SB Model)	6 x 7 Ah (SB Model)	6 x 9Ah (SB Model)
Rated voltage	36Vdc	72 Vdc	72 Vdc
Charging current max	1 Amp		
Maximum Battery Backup time	7 mins	6.5 mins	5 mins
Recharge Time	4 hours recover to 90% capacity (Typical)		
EXTERNAL BATTERY CHARGER			
No. of Batteries	3	8	8
Rated Voltage	36Vdc	72 Vdc	72 Vdc
Maximum charging current	4 / 8 Amp		
Recharge Time	for STD model : 5 hours recovers to 90% capacity (typical) / for LB Model : Depending on the capacity of ext. battery.		
Available Batteries			
ECO	Yes		
EPO Emergency Power Off	Yes		
Charging Voltage			

Physical Parameters : GXT MT+

Parameter	GXT MT +		
	1kVA / 800W	2kVA / 1600W	3kVA / 2400W
Part nos	536600013003 (SB) / 536600013002 (LB)	536600023002 (SB) / 536600023001 (LB)	526600033001 (SB) / 526600033000 (LB)
Physical			
Hight X width X Depth (MM)	220x145x388.5	318x190x387	318x190x387
Weight	13kg -STD ; 7kg - LB	26kg - STD ; 13kg -LB	28kg - STD ; 13kg -LB
Ventilation	Force Air cooled		
Structure	Metallic with plastic front panel	Metallic with plastic front panel	Metallic with plastic front panel
Cable Entry	Back side		
Cable Sizing I/P			
Cable sizing O/P			
Cables sizing Battery			
Colour / Panel finish	IBM Black		
Out put Connection details	(SB Model) : Power Cord: Nema :15 A / (LB Model) Power Receptacle :IEC 320 C14 : 10A	(SB Modle):Power Cord: Nema :20 A (SB Model) / (LB Model) :Power Receptacle :IEC 320 C14 : 16A	Terminal Block
Input connection details	SB Model: 4 X NEMA 5-15 R / LB Model :4 x IEC 320 C13 (10A)	SB Model: 8 X NEMA 5-120R / LB Model : 8 x IEC 320 C13 (10A)	SB Model: 6 X NEMA 5-20R + Terminal Block/ LB Model :6 x IEC 320 C13 (10A) (Terminal Block)
Base castor wheels	NO	NO	NO
Protection	IP 20	IP 20	IP 20

Environmental Parameters & Standards: GXT MT+

Parameter	GXT MT +		
	1kVA / 800W	2kVA / 1600W	3kVA / 2400W
Part nos	536600013003 (SB) / 536600013002 (LB)	536600023002 (SB) / 536600023001 (LB)	526600033001 (SB) / 526600033000 (LB)
Environmental			
Storage temperature	-20 to 50 Deg. C		
Operating temperature	0-40 Deg. C		
Relative Humidity	20 to 90 per @0-40 deg (non-condensing)		
Altitude	< 4 km		
Noise Level	Less than 45 dB @ 1 mtr		
Standards			
EMI	EN 62040-2:2006		
Safety	EN 62040-1-1::2003		
Performance (technical feature)	IEC / EN 62040 - 3		
Surge protection	360 Joule	360 Joule	360 Joule
Display	LCD		
Audible Alarm	1. Back up mode : sounding every 4 seconds, 2. Low Battery : every seconds, 3. Overload : every 0.5 seconds, 4. Bypass mode : every 10 seconds, 5. Fault :continuously sounding		

Output De-rating Table : GXT MT 1/2/3 kVA

2-3K Internal ambient tem.		83C	78C	73C	68C	63C	58C	53C	48C
1-1.5K Internal ambient tem.		95C	90C	85C	80C	75C	70C	65C	60C
External ambient tem.		80C	75C	70C	65C	60C	55C	50C	45C
Load	90%-100%	4	7	10	13	16	19	22	60
	80%-90%	7	10	13	16	19	22		
	70%-80%	10	13	16	19	22			
	60%-70%	13	16	19	22				
	50%-60%	16	19	22					
	40%-50%	19	22						
	30%-40%	22							
	20%-30%								
	10%-20%								

The Heat Dissipation at 50% & 100% Load (:W)

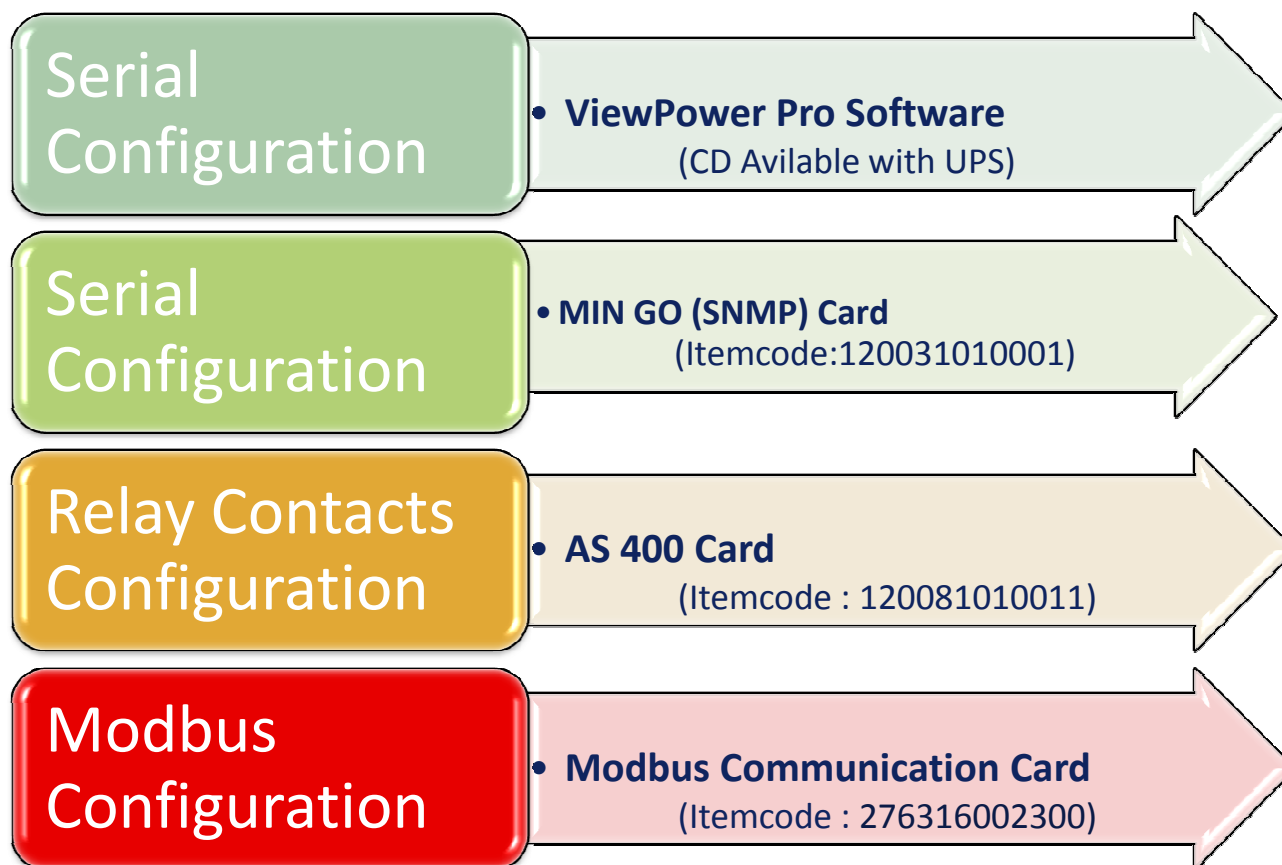
UPS mode	Line mode		Battery mode	
Load	50% load	100% Load	50% load	100% Load
1K	50.00	94.00	58.00	110.00
2K	105.00	193.00	113.00	225.00
3K	165.00	297.00	165.00	345.00

A background image showing two individuals in a control room, viewed from behind, looking at a wall of multiple computer monitors. The screens display various data visualizations, including maps and charts. The text 'Monitoring GXT- MT+' is overlaid in the center in a large, bold, black font.

Monitoring GXT- MT+

GXT-MT+ /RT+: Monitoring

Contd...



GXT-MT+/RT+ : 1. Serial Configuration

➡ Requirement:

★ ViewPower Software CD

View Power Pro Software CD (UPS Management & Shutdown operation software)

Supported OS : x86 (64 bits)-Windows (7.98,2000, 2003,XP, VISTA, 2008,),

RedHat Linux 8 and above, RedHat Enterprise AS3 and above, Suse Linux 10 and above, Ubuntu 6.10 and above, Fedora 5 and above, Macbox (10.3, 10.4,10.5),

Solaris 10.x64(32 bits)-Windows (7.98,2000, 2003,XP, VISTA, 2008,), Solaris 10.

★ RS232 Cable

★ Optional* - GSM Modem (for SMS facility)



➡ Connectivity: Through RS232 cable.

➡ Features:

- ❖ Remote parameters monitoring:- Input, output, bypass and battery
- ❖ Monitoring of UPS status – On / Off, On Battery, On bypass.
- ❖ Load (1 PC,Server) OS shutdown.
- ❖ Event and data logging.

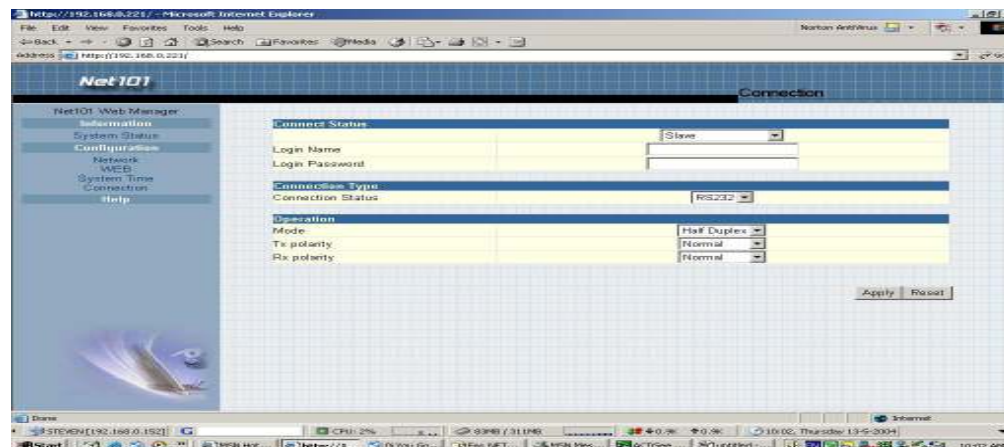


Note: * Optional – Supplied as per customer requirement.

GXT-MT+/RT+ : 1. Serial Configuration

Features:

- ❖ UPS On/Off
- ❖ Scheduling different task; like Battery test, Load shutdown etc.
- ❖ Alarm notification via Email. To maximum 20 mail users.
- ❖ Alarm notification via SMS. To maximum 5 cell phone users.
- ❖ Broadcast* alarms messages on LAN. Supported for 'Windows' platform (with Messenger Service)



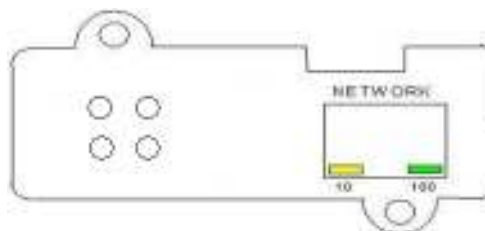
Note: * To 'Broadcast' alarm messages on LAN, Viewpower software need not be installed on all the PCs (Except to which UPS is directly connected using RS232 cable).

GXT-MT+/RT+ : 2. SNMP Configuration

Requirement:

- ★ MIN GO Card
- ★ ViewPower Pro Software

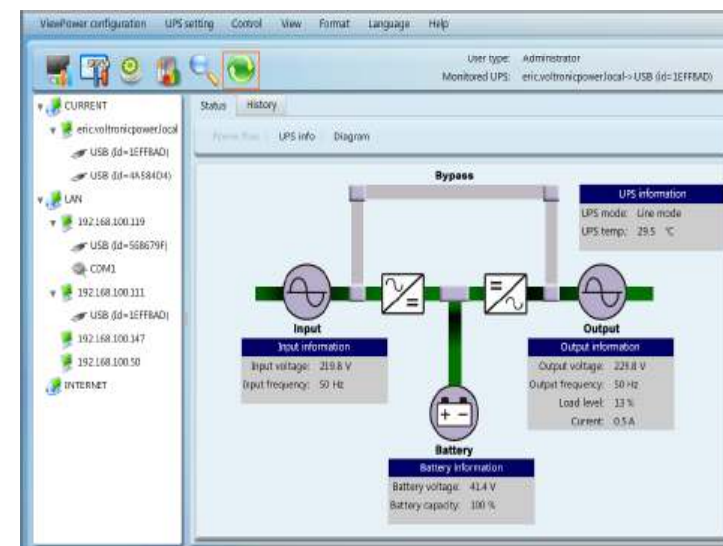
Supported OS : Windows (98,2000, 2003,XP, VISTA, 2008, 7), RedHat Linux 8 and above, RedHat Enterprise AS3 and above, Suse Linux 10 and above, Ubuntu 6.10 and above, Fedora 5 and above, Macbox (10.3, 10.4,10.5), Solaris 10.



Connectivity: Through Ethernet(LAN) cable.

Features:

- ❖ Remote parameters monitoring:- Input, output, bypass and battery parameters can be monitored.
- ❖ Monitoring of UPS status - On / Off, On Battery, On bypass. .
- ❖ Load (200 PC) OS shutdown.
- ❖ Alarm notification via Email. To maximum 4 mail users.
- ❖ Event and data logging.



Note: USHA Card can't be monitored through Winpower Software.

GXT- MT+ / RT+ : SNMP Manager

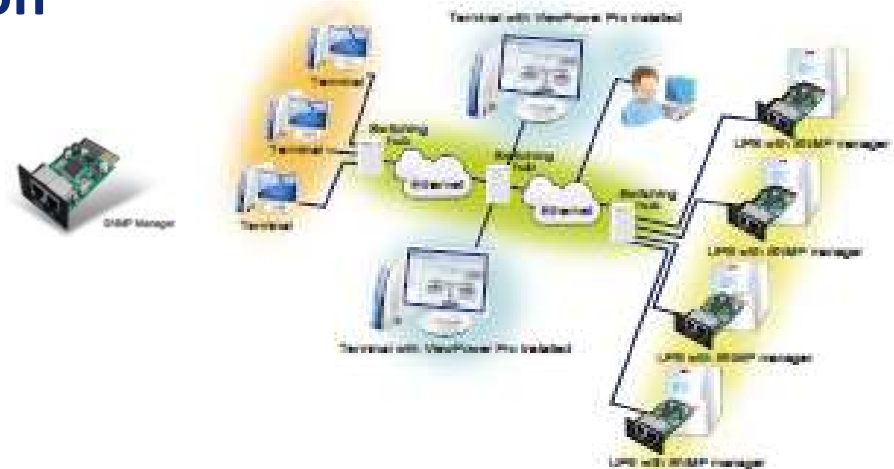
Intelligent Management Function

➔ Requirement:
SNMP Card(MINGO Card)

➔ Software Requirement :
ViewPower Pro Software
(Monitoring & Shutdown operation)

➔ Features:

- ❖ Remote parameters monitoring:- Input, output, bypass and battery
- ❖ Data logging, Real time dynamic graphs of UPS Data, warning notification via audible alarm, broadcast, mobile message, e-mail, & SNMP traps.
- ❖ Load OS shutdown.
- ❖ Optional Environmental Monitoring detector for temperature, humidity & Smoke
- ❖ Password security protection and remote access management



GXT-MT +/-RT+ : 3. Relay Contacts Configuration

➔ Requirement:

★ AS400 Card

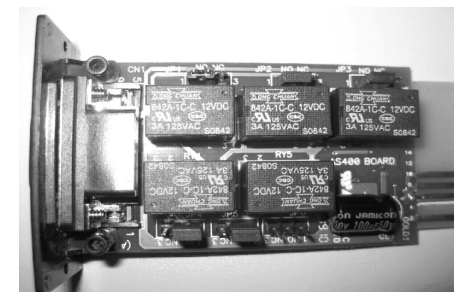
★ ViewPower Software CD

View Power Pro Software CD (UPS Management & Shutdown operation software)

Supported OS : x86 (64 bits)-Windows (7.98,2000, 2003,XP, VISTA, 2008,),

RedHat Linux 8 and above, RedHat Enterprise AS3 and above, Suse Linux 10 and above, Ubuntu 6.10 and above, Fedora 5 and above, Macbox (10.3, 10.4,10.5),

Solaris 10.x64(32 bits)-Windows (7.98,2000, 2003,XP, VISTA, 2008,), Solaris 10. **Connectivity: DB9 interface is provided**



➔ Connectivity: DB9 interface is provided

➔ Features:

- ❖ Notification* about alarms: Utility failure, UPS failure, UPS on bypass, Battery low.
- ❖ Remote UPS shutdown (this feature is not supported by 1,2,3kVA UPS)



Note: * Notification means, for particular alarm respective pins of DB9 connector appear short externally.

GXT-MT+ /RT+ : 4. MODBUS Configuration



Requirement:

- ★ Modbus communication Card
- ★ Communication Board



Connectivity: RS232 standard connectivity



Features:

- ❖ **Parameter Monitoring:-** Input, output, bypass and battery parameters can be monitored.
- ❖ **UPS status can be monitored by BMS application.**

RS485



Take Aways : GXT-MT+/RT+ UPS

❖ **Compact Design**



❖ **LCD Display**



❖ **High Efficiency**



❖ **High Power Factor**



❖ **Long Backup**



❖ **Monitoring**



❖ **ECO Mode**



❖ **EPO Function**



THANK YOU
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