

REDWAY 48V PowerRack LV4850 System with its smart BMS in each battery module, no extra communication devices need. The entire system is intelligently managed, support Off-Grid or Hybrid working mode, widely used for household, community and C&I purpose. Keep you powered on all the time.



E C€ RoHS UN38.3

FEATURES AND ADVANTAGE



High Safety LFP

Cell level monitoring and balancing



Expandable

Capacity from 2.4kWh to 36kWh



Modular Design

Free parallel configuration



19" Inch

Easy installation & maintenance



Wide Application

Cover all needs in commercial fields



Wide Compatibility

Matching leading inverter brand



APP Monitoring

Remote upgrade aviliable

Rack System LV4850 **TECHNICAL PARAMETERS OF PM-LV4850-3U**

Model	PM-LV4850-3U	
Battery Type	LiFePO4 (LFP)	
Nominal Capacity	50Ah	
Norminal Battery Energy	2.4kWh	
Nominal Voltage	48V	
Net Weight	24Kg	
Dimension (L*W*H)	17.32*12.99*5.28in (440*330*134mm)	
Charging Temp. Range	0 ~ 55°C	
Discharging Temp. Range	-20 ~ 60°C	
Communication	CAN/RS485	
Design Life	20 Years	
Cycle Life (0.2C Charging/Discharging, @25C, 40% DOD)	> 8000 Cycles	
Cycle Life (0.2C Charging/Discharging, @25C, 80% DOD)	> 4000 Cycles	
Scalability	Up to 15 Units	
IP Grade	IP21	
Commontible Inventors	Victron/SMA/Goodwe/Solis/SAJ/Growatt/Luxpower/	
Compatible Inverters	SRNE/Voltronic/Deye etc.	
Certification & Safety Standard	IEC62619/CE/UN38.3	





PM-LV4850-3U

PR-LV4850-3U-4P

PR-LV4850-3U-8P

TECHNICAL PARAMETERS OF PR-LV4850-3U SERIES

Rack Type	PR-LV4850-3U-4P	PR-LV4850-U-8P	PR-LV4850-3U-12P
Battery Module Type	PM-LV4850-3U	PM-LV4850-3U	PM-LV4850-3U
Battery Type	LFP	LFP	LFP
Nominal Battery Energy	9.6kWh	19.2kWh	28.8kWh
Nominal Capacity	200Ah	400Ah	600Ah
Nominal Voltage	48V	48V	48V
Operating Vol. Range	37.5V ~ 54.75V	37.5V ~ 54.75V	37.5V ~ 54.75V
Nominal Power Output	4.8kW	9.6kW	14.4kW
Max. Power Output	7.68kW	15.36kW	23.04kW
Charging Current (Recommended)	100A	200A	300A
Discharging Current (Recommended)	100A	200A	300A
Net Weight	100Kg	273Kg	450Kg
Module Quantity and Configuration	4 Units in parallel	8 Units in parallel	12 Units in parallel
Dimension (L*W*H)	18.11*13.07*25.2in (460*332*640mm)	23.62*23.62*60.43in (600*600*1535mm)	23.62*23.62*60.43in (600*600*1535mm)



Rack System LV4850-PRO

REDWAY 48V PowerRack LV4850-PRO System with its smart BMS in each battery module, no extra communication devices need. The entire system is intelligently managed, support Off-Grid or Hybrid working mode, widely used for household, community and C&I purpose. Keep you powered on all the time.



E C€ RoHS UN38.3

FEATURES AND ADVANTAGE



High Safety LFP

Cell level monitoring and balancing



Expandable

Capacity from 2.4kWh to 36kWh



Modular Design

Free parallel configuration



19" Inch

Easy installation & maintenance



Wide Application

Cover all needs in commercial fields



Wide Compatibility

Matching leading inverter brand



APP Monitoring

Remote upgrade aviliable



Rack System LV4850-PRO

TECHNICAL PARAMETERS OF PM-LV4850-2U-PRO

Model	PM-LV4850-2U-PRO
Battery Type	LiFePO4 (LFP)
Nominal Capacity	50Ah
Norminal Battery Energy	2.4kWh
Nominal Voltage	48V
Net Weight	22Kg
Dimension (L*W*H)	17.32*16.14*3.48in (440*410*88.5mm)
Charging Temp. Range	0 ~ 55°C
Discharging Temp. Range	-20 ~ 60°C
Communication	CAN/RS485
Design Life	20 Years
Cycle Life (0.2C Charging/Discharging, @25C, 40% DOD)	> 8000 Cycles
Cycle Life (0.2C Charging/Discharging, @25C, 80% DOD)	> 4000 Cycles
Scalability	Up to 15 Units
IP Grade	IP21
Compatible Inverters	Victron/SMA/Goodwe/Solis/SAJ/Growatt/Luxpower/
Companiate inverters	SRNE/Voltronic/Deye etc.
Certification & Safety Standard	IEC62619/CE/UN38.3







PM-LV4850-2U-PRO

PR-LV4850-2U-PRO-4P

PR-LV4850-2U-PRO-8P

TECHNICAL PARAMETERS OF PR-LV4850-2U-PRO SERIES

Rack Type	PR-LV4850-2U-PRO-4P	PR-LV4850-2U-PRO-8P	PR-LV4850-2U-PRO-12
Battery Module Type	PM-LV4850-2U-PRO	PM-LV4850-2U-PRO	PM-LV4850-2U-PRO
Battery Type	LFP	LFP	LFP
Nominal Battery Energy	9.6kWh	19.2kWh	28.8kWh
Nominal Capacity	200Ah	400Ah	600Ah
Nominal Voltage	48V	48V	48V
Operating Vol. Range	37.5V ~ 54.75V	37.5V ~ 54.75V	37.5V ~ 54.75V
Nominal Power Output	4.8kW	9.6kW	14.4kW
Max. Power Output	7.68kW	15.36kW	23.04kW
Charging Current (Recommended)	100A	200A	300A
Discharging Current (Recommended)	100A	200A	300A
Net Weight	88Kg	253Kg	366Kg
Module Quantity and Configuration	4 Units in parallel	8 Units in parallel	12 Units in parallel
Dimension (L*W*H)	18.58*16.22*12.52in (472*412*318mm)	23.62*23.62*60.43in (600*600*1535mm)	23.62*23.62*60.43in (600*600*1535mm)



REDWAY 51.2V PowerRack LV5150 System with its smart BMS in each battery module, no extra communication devices need. The entire system is intelligently managed, support Off-Grid or Hybrid working mode, widely used for household, community and C&I purpose. Keep you powered on all the time.



E C€ RoHS UN38.3

FEATURES AND ADVANTAGE



High Safety LFP

Cell level monitoring and balancing



Expandable

Capacity from 2.56kWh to 38.4kWh



Modular Design

Free parallel configuration



19" Inch

Easy installation & maintenance



Wide Application

Cover all needs in commercial fields



Wide Compatibility

Matching leading inverter brand



APP Monitoring

Remote upgrade aviliable



Rack System LV5150

TECHNICAL PARAMETERS OF PM-LV5150-3U

Model	PM-LV5150-3U
Battery Type	LiFePO4 (LFP)
Nominal Capacity	50Ah
Norminal Battery Energy	2.56kWh
Nominal Voltage	51.2V
Net Weight	25Kg
Dimension (L*W*H)	17.32*12.99*5.28in (440*330*134mm)
Charging Temp. Range	0 ~ 55°C
Discharging Temp. Range	-20 ~ 60°C
Communication	CAN/RS486
Design Life	20 Years
Cycle Life (0.2C Charging/Discharging, @25C, 40% DOD)	> 8000 Cycles
Cycle Life (0.2C Charging/Discharging, @25C, 80% DOD)	> 4000 Cycles
Scalability	Up to 15 Units
IP Grade	IP21
Commontible Inventors	Victron/SMA/Goodwe/Solis/SAJ/Growatt/Luxpower/
Compatible Inverters	SRNE/Voltronic/Deye etc.
Certification & Safety Standard	IEC62619/CE/UN38.3





PM-LV5150-3U

PR-LV5150-3U-4P

PR-LV5150-3U-8P

TECHNICAL PARAMETERS OF PR-LV4850-3U SERIES

Rack Type	PR-LV5150-3U-4P	PR-LV5150-3U-8P	PR-LV5150-3U-12P
Battery Module Type	PM-LV5150-3U	PM-LV5150-3U	PM-LV5150-3U
Battery Type	LFP	LFP	LFP
Nominal Battery Energy	10.24kWh	20.48kWh	30.72kWh
Nominal Capacity	200Ah	400Ah	600Ah
Nominal Voltage	51.2V	51.2V	51.2V
Operating Vol. Range	40V ~ 58.4V	40V ~ 58.4V	40V ~ 58.4V
Nominal Power Output	5.12kW	10.24kW	15.36kW
Max. Power Output	8.19kW	16.38kW	24.57kW
Charging Current (Recommended)	100A	200A	300A
Discharging Current (Recommended)	100A	200A	300A
Net Weight	104Kg	281Kg	462Kg
Module Quantity and Configuration	4 Units in parallel	8 Units in parallel	8 Units in parallel
Dimension (L*W*H)	18.11*13.07*25.2in (460*332*640mm)	23.62*23.62*60.43in (600*600*1535mm)	23.62*23.62*60.43in (600*600*1535mm)



Rack System LV5150-PRO

REDWAY 51.2V PowerRack LV5150-PRO System with its smart BMS in each battery module, no extra communication devices need. The entire system is intelligently managed, support Off-Grid or Hybrid working mode, widely used for household, community and C&I purpose. Keep you powered on all the time.



E C€ RoHS UN38.3

FEATURES AND ADVANTAGE



High Safety LFP

Cell level monitoring and balancing



Expandable

Capacity from 2.56kWh to 38.4kWh



Modular Design

Free parallel configuration



19" Inch

Easy installation & maintenance



Wide Application

Cover all needs in commercial fields



Wide Compatibility

Matching leading inverter brand



APP Monitoring

Remote upgrade aviliable



Rack System LV5150-PRO

TECHNICAL PARAMETERS OF PM-LV5150-2U-PRO

Model	PM-LV5150-2U-PRO
Battery Type	LiFePO4 (LFP)
Nominal Capacity	50Ah
Norminal Battery Energy	2.56kWh
Nominal Voltage	51.2V
Net Weight	23Kg
Dimension (L*W*H)	17.32*16.14*3.48in (440*410*88.5mm)
Charging Temp. Range	0 ~ 55°C
Discharging Temp. Range	-20 ~ 60°C
Communication	CAN/RS486
Design Life	20 Years
Cycle Life (0.2C Charging/Discharging, @25C, 40% DOD)	> 8000 Cycles
Cycle Life (0.2C Charging/Discharging, @25C, 80% DOD)	> 4000 Cycles
Scalability	Up to 15 Units
IP Grade	IP21
Commontible Inventors	Victron/SMA/Goodwe/Solis/SAJ/Growatt/Luxpower/
Compatible Inverters	SRNE/Voltronic/Deye etc.
Certification & Safety Standard	IEC62619/CE/UN38.3







PM-LV5150-2U-PRO

PR-LV5150-2U-PRO-4P

PR-LV5150-2U-PRO-8P

TECHNICAL PARAMETERS OF PR-LV4850-2U-PRO SERIES

Rack Type	PR-LV5150-2U-PRO-4P	PR-LV5150-2U-PRO-8P	PR-LV5150-2U-PRO-12F
Battery Module Type	PM-LV5150-2U-PRO	PM-LV5150-2U-PRO	PM-LV5150-2U-PRO
Battery Type	LFP	LFP	LFP
Nominal Battery Energy	10.24kWh	20.48kWh	30.72kWh
Nominal Capacity	200Ah	400Ah	600Ah
Nominal Voltage	51.2V	51.2V	51.2V
Operating Vol. Range	40V ~ 58.4V	40V ~ 58.4V	40V ~ 58.4V
Nominal Power Output	5.12kW	10.24kW	15.36kW
Max. Power Output	8.19kW	16.38kW	24.57kW
Charging Current (Recommended)	100A	200A	300A
Discharging Current (Recommended)	100A	200A	300A
Net Weight	92Kg	261Kg	378Kg
Module Quantity and Configuration	4 Units in parallel	8 Units in parallel	8 Units in parallel
Dimension (L*W*H)	18.58*16.22*12.52in (472*412*318mm)	23.62*23.62*60.43in (600*600*1535mm)	23.62*23.62*60.43in (600*600*1535mm)



REDWAY 48V PowerRack LV48100 System with its smart BMS in each battery module, no extra communication devices need. The entire system is intelligently managed, support Off-Grid or Hybrid working mode, widely used for household, community and C&I purpose. Keep you powered on all the time.



E C€ RoHS UN38.3

FEATURES AND ADVANTAGE



High Safety LFP

Cell level monitoring and balancing



Expandable

Capacity from 4.8kWh to 76.8kWh



Modular Design

Free parallel configuration



19" Inch

Easy installation & maintenance



Wide Application

Cover all needs in commercial fields



Wide Compatibility

Matching leading inverter brand



APP Monitoring

Remote upgrade aviliable

Rack System LV48100

TECHNICAL PARAMETERS OF PM-LV48100-3U

Model	PM-LV48100-3U
Battery Type	LiFePO4 (LFP)
Nominal Capacity	100Ah
Norminal Battery Energy	4.8kWh
Nominal Voltage	48V
Net Weight	40Kg
Dimension (L*W*H)	17.32*16.53*5.28in (440*420*134mm)
Charging Temp. Range	0 ~ 55°C
Discharging Temp. Range	-20 ~ 60°C
Communication	CAN/RS488
Design Life	20 Years
Cycle Life (0.2C Charging/Discharging, @25C, 40% DOD)	> 8000 Cycles
Cycle Life (0.2C Charging/Discharging, @25C, 80% DOD)	> 4000 Cycles
Scalability	Up to 16 Units
IP Grade	IP21
Commodition to the contract of	Victron/SMA/Goodwe/Solis/SAJ/Growatt/Luxpower/
Compatible Inverters	SRNE/Voltronic/Deye etc.
Certification & Safety Standard	IEC62619/CE/UN38.3





PM-LV48100-3U

PR-LV48100-3U-4P

PR-LV48100-3U-8P

TECHNICAL PARAMETERS OF PR-LV48100-3U SERIES

Rack Type	PR-LV48100-3U-4P	PR-LV48100-3U-8P	PR-LV48100-3U-12P
Battery Module Type	PM-LV48100-3U	PM-LV48100-3U	PM-LV48100-3U
Battery Type	LFP	LFP	LFP
Nominal Battery Energy	19.2kWh	38.4kWh	57.6kWh
Nominal Capacity	400Ah	800Ah	1200Ah
Nominal Voltage	48V	48V	48V
Operating Vol. Range	37.5V ~ 54.75V	37.5V ~ 54.75V	37.5V ~ 54.75V
Nominal Power Output	9.6kW	19.2kW	28.8kW
Max. Power Output	15.36kW	30.72KW	46.08kW
Charging Current (Recommended)	200A	400A	600A
Discharging Current (Recommended)	200A	400A	600A
Net Weight	160Kg	401Kg	596Kg
Module Quantity and Configuration	4 Units in parallel	8 Units in parallel	8 Units in parallel
Dimension (L*W*H)	18.11*16.61*25.2in (460*422*640mm)	23.62*23.62*60.43in (600*600*1535mm)	23.62*23.62*60.43in (600*600*1535mm)

Due to our policy of continuous product innovation, some specifications may change without notification.



Rack System LV48100-PRO

REDWAY 48V PowerRack LV48100-PRO System with its smart BMS in each battery module, no extra communication devices need. The entire system is intelligently managed, support Off-Grid or Hybrid working mode, widely used for household, community and C&I purpose. Keep you powered on all the time.



E C€ RoHS UN38.3

FEATURES AND ADVANTAGE



High Safety LFP

Cell level monitoring and balancing



Expandable

Capacity from 4.8kWh to 76.8kWh



Modular Design

Free parallel configuration



19" Inch

Easy installation & maintenance



Wide Application

Cover all needs in commercial fields



Wide Compatibility

Matching leading inverter brand



APP Monitoring

Remote upgrade aviliable

Rack System LV48100-PRO

TECHNICAL PARAMETERS OF PM-LV48100-3U-PRO

Model	PM-LV48100-3U-PRO
Battery Type	LiFePO4 (LFP)
Nominal Capacity	100Ah
Norminal Battery Energy	4.8kWh
Nominal Voltage	48V
Net Weight	40Kg
Dimension (L*W*H)	17.32*16.53*5.28in (440*420*134mm)
Charging Temp. Range	0 ~ 55°C
Discharging Temp. Range	-20 ~ 60°C
Communication	CAN/RS488
Design Life	20 Years
Cycle Life (0.2C Charging/Discharging, @25C, 40% DOD)	> 8000 Cycles
Cycle Life (0.2C Charging/Discharging, @25C, 80% DOD)	> 4000 Cycles
Scalability	Up to 16 Units
IP Grade	IP21
Compatible Invertors	Victron/SMA/Goodwe/Solis/SAJ/Growatt/Luxpower/
Compatible Inverters	SRNE/Voltronic/Deye etc.
Certification & Safety Standard	IEC62619/CE/UN38.3







PM-LV48100-3U-PRO

PR-LV48100-3U-PRO-4P

PR-LV48100-3U-PRO-8P

TECHNICAL PARAMETERS OF PR-LV48100-3U-PRO SERIES

Rack Type	PR-LV48100-3U-PRO-4P	PR-LV48100-3U-PRO-8P	PR-LV48100-3U-PRO-12P
Battery Module Type	PM-LV48100-3U-PRO	PM-LV48100-3U-PRO	PM-LV48100-3U-PRO
Battery Type	LFP	LFP	LFP
Nominal Battery Energy	19.2kWh	38.4kWh	57.6kWh
Nominal Capacity	400Ah	800Ah	1200Ah
Nominal Voltage	48V	48V	48V
Operating Vol. Range	37.5V ~ 54.75V	37.5V ~ 54.75V	37.5V ~ 54.75V
Nominal Power Output	9.6kW	19.2kW	28.8kW
Max. Power Output	15.36kW	30.72KW	46.08kW
Charging Current (Recommended)	200A	400A	600A
Discharging Current (Recommended)	200A	400A	600A
Net Weight	160Kg	401Kg	596Kg
Module Quantity and Configuration	4 Units in parallel	8 Units in parallel	8 Units in parallel
Dimension (L*W*H)	18.11*16.61*25.2in (460*422*640mm)	23.62*23.62*60.43in (600*600*1535mm)	23.62*23.62*60.43in (600*600*1535mm)

Due to our policy of continuous product innovation, some specifications may change without notification.



REDWAY 51.2V PowerRack LV51100 System with its smart BMS in each battery module, no extra communication devices need. The entire system is intelligently managed, support Off-Grid or Hybrid working mode, widely used for household, community and C&I purpose. Keep you powered on all the time.



E C€ RoHS UN38.3

FEATURES AND ADVANTAGE



High Safety LFP

Cell level monitoring and balancing



Expandable

Capacity from 5.12kWh to 81.92kWh



Modular Design

Free parallel configuration



19" Inch

Easy installation & maintenance



Wide Application

Cover all needs in commercial fields



Wide Compatibility

Matching leading inverter brand



APP Monitoring

Remote upgrade aviliable



Rack System LV51100

TECHNICAL PARAMETERS OF PM-LV51100-3U

Model	PM-LV51100-3U		
Battery Type	LiFePO4 (LFP)		
Nominal Capacity	100Ah		
Norminal Battery Energy	5.12kWh		
Nominal Voltage	51.2V		
Net Weight	42Kg		
Dimension (L*W*H)	17.32*16.53*5.28in (440*420*134mm)		
Charging Temp. Range	0 ~ 55°C		
Discharging Temp. Range	-20 ~ 60°C		
Communication	CAN/R5489		
Design Life	20 Years		
Cycle Life (0.2C Charging/Discharging, @25C, 40% DOD)	> 8000 Cycles		
Cycle Life (0.2C Charging/Discharging, @25C, 80% DOD)	> 4000 Cycles		
Scalability	Up to 16 Units		
IP Grade	IP21		
Compatible Inverters	Victron/SMA/Goodwe/Solis/SAJ/Growatt/Luxpower/		
Compatible inverters	SRNE/Voltronic/Deye etc.		
Certification & Safety Standard	IEC62619/CE/UN38.3		





PM-LV51100-3U

PR-LV51100-3U-4P

PR-LV51100-3U-8P

TECHNICAL PARAMETERS OF PR-LV51100-3U SERIES

Rack Type	PR-LV51100-3U-4P	PR-LV51100-3U-8P	PR-LV51100-3U-12P
Battery Module Type	PM-LV51100-3U	PM-LV51100-3U	PM-LV51100-3U
Battery Type	LFP	LFP	LFP
Nominal Battery Energy	20.48kWh	40.96kWh	61.44kWh
Nominal Capacity	400Ah	800Ah	1200Ah
Nominal Voltage	51.2V	51.2V	51.2V
Operating Vol. Range	40V ~ 58.4V	40V ~ 58.4V	40V ~ 58.4V
Nominal Power Output	10.24kW	20.48kW	30.72kW
Max. Power Output	16.38kW	32.76kW	49.15kW
Charging Current (Recommended)	200A	400A	600A
Discharging Current (Recommended)	200A	400A	600A
Net Weight	168Kg	417Kg	620Kg
Module Quantity and Configuration	4 Units in parallel	8 Units in parallel	8 Units in parallel
Dimension (L*W*H)	18.11*16.61*25.2in (460*422*640mm)	23.62*23.62*60.43in (600*600*1535mm)	23.62*23.62*60.43in (600*600*1535mm)



Rack System LV51100-PRO

REDWAY 51.2V PowerRack LV51100-PRO System with its smart BMS in each battery module, no extra communication devices need. The entire system is intelligently managed, support Off-Grid or Hybrid working mode, widely used for household, community and C&I purpose. Keep you powered on all the time.



E C€ RoHS UN38.3

FEATURES AND ADVANTAGE



High Safety LFP

Cell level monitoring and balancing



Expandable

Capacity from 5.12kWh to 81.92kWh



Modular Design

Free parallel configuration



19" Inch

Easy installation & maintenance



Wide Application

Cover all needs in commercial fields



Wide Compatibility

Matching leading inverter brand



APP Monitoring

Remote upgrade aviliable

Rack System LV51100-PRO

TECHNICAL PARAMETERS OF PM-LV51100-3U-PRO

Model	PM-LV51100-3U-PRO	
Battery Type	LiFePO4 (LFP)	
Nominal Capacity	100Ah	
Norminal Battery Energy	5.12kWh	
Nominal Voltage	51.2V	
Net Weight	42Kg	
Dimension (L*W*H)	17.32*16.53*5.28in (440*420*134mm)	
Charging Temp. Range	0 ~ 55°C	
Discharging Temp. Range	-20 ~ 60°C	
Communication	CAN/RS489	
Design Life	20 Years	
Cycle Life (0.2C Charging/Discharging, @25C, 40% DOD)	> 8000 Cycles	
Cycle Life (0.2C Charging/Discharging, @25C, 80% DOD)	> 4000 Cycles	
Scalability	Up to 16 Units	
IP Grade	IP21	
Compatible Invertors	Victron/SMA/Goodwe/Solis/SAJ/Growatt/Luxpower/	
Compatible Inverters	SRNE/Voltronic/Deye etc.	
Certification & Safety Standard	IEC62619/CE/UN38.3	





PM-LV51100-3U-PRO

PR-LV51100-3U-PRO-4P

PR-LV51100-3U-PRO-8P

TECHNICAL PARAMETERS OF PR-LV51100-3U-PRO SERIES

Rack Type	PR-LV51100-3U-PRO-4P	PR-LV51100-3U-PRO-8P	PR-LV51100-3U-PRO-12P
Battery Module Type	PM-LV51100-3U-PRO	PM-LV51100-3U-PRO	PM-LV51100-3U-PRO
Battery Type	LFP	LFP	LFP
Nominal Battery Energy	20.48kWh	40.96kWh	61.44kWh
Nominal Capacity	400Ah	800Ah	1200Ah
Nominal Voltage	51.2V	51.2V	51.2V
Operating Vol. Range	40V ~ 58.4V	40V ~ 58.4V	40V ~ 58.4V
Nominal Power Output	10.24kW	20.48kW	30.72kW
Max. Power Output	16.38kW	32.76kW	49.15kW
Charging Current (Recommended)	200A	400A	600A
Discharging Current (Recommended)	200A	400A	600A
Net Weight	168Kg	417Kg	620Kg
Module Quantity and Configuration	4 Units in parallel	8 Units in parallel	8 Units in parallel
Dimension (L*W*H)	18.11*16.61*25.2in (460*422*640mm)	23.62*23.62*60.43in (600*600*1535mm)	23.62*23.62*60.43in (600*600*1535mm)

Due to our policy of continuous product innovation, some specifications may change without notification.