Applications

- Emergency and safety systems
- Emergency lighting
- Fire fighting
- Safety equipment

Highlights

NIO ECS

- Compliant with EN 50171
- On-line double conversion
- Paralleling up to 960 kVA



ECS

Emergency Central Systems

1ph - 3ph from 10 to 160 kVA

ECS

Emergency Central Systems 1ph - 3ph from 10 to 160 kVA

Compliance to EN 50171 standard

- 120% permanent power overload capability.
- Batteries with 10 years life expectancy.
- Acid proof battery cabinets and racks.
- Battery polarity reversal protection.
- Deep discharge protection.
- Short circuit protection.
- Battery charger to provide 80% autonomy within 12 hours.
- Battery charger temperature compensation.
- IP20 metal enclosure as per EN 60598-1.

Features and Benefits

- Green Conversion technology, providing high efficiency and UPS components' life extension.
- Compact transformer free design for small footprint.
- Easy access for fast maintenance and low MTTR.

Main options

- AO+EO mode kit.
- Isolation transformer.
- Separate rectifier and bypass input for E8000 ECS 3-phase output models.
- Parallel kit.
- Backfeed protection (standard with 10, 15 and 20 kVA ratings).

Operating modes

Changeover mode -Always On (AO)

Loads are normally fed by the bypass line, during a mains failure the inverter takes over the load without interruption.

Mode without interruption -Always On (AO)

Loads are normally fed by the inverter output.

Changeover mode with additional control switching device for partial switching of the load - Always On + Emergency Only (AO+EO)

Some loads are fed by the inverter or bypass, while other loads are switched on only upon mains failure.





E8000 ECS

INGENIO ECS

Berri

Rating (kVA)	10	15	20	30	40	50
Nominal power (kW)	9	13.5	18	27	36	45
Nominal power as per EN 50171 (kW)	7.5	11.3	15	22.5	30	37.5
UPS dimensions WxDxH (mm)			450x670>	<1200		1
UPS weight (kg)	100	110	110	140	140	170
Battery configuration		E	External, 360 to 372 cells	, VRLA (other option	s)	
, o				· · · ·	,	
	3/1-phas	e units: hardwired 4	w (rectifier),	3/3	phase units: hardwire	d 4w
Connection type		2w (bypass)	, ,	(separate b	, ypass input available	on request)
Connection type	3/3-phase units: hardwired 4w (separate bypass input					
	available on request)					/fr)
Nominal voltage	400 Vac 3-phase with neutral (rectifier) 220/230/240 Vac (3/1-phase bypass)			400 Vac 3-phase with neutral (rectifier)		
Voltage tolerance			-20%, +15% (rectifier			
Frequency and range			50/60 Hz, 45	5 to 65 Hz		
Power factor			0.99	>		
Current distortion (THDi)			<3%	, D		
utput						
Connection type		phase units: hardwir 3-phase units: hardwire		3/3	phase units: hardwire	d 4w
Nominal voltage		units: 220/230/240 380/400/415 Vac 3		380/400	/415 Vac 3-phase w	ith neutral
Frequency			50/60	Hz		
Voltage regulation			Static: ±1%; dynamic: IEC	/EN 62040-3 Class 1		
Power factor		Up	to 0.9, lagging or leading	g without power der	ating	
			120% cont	,		
Overload capacity*			150% for 1 180% for	,		
Efficiency (AC/AC)**			Up to 9	28%		
Classification as per IEC/EN 62040-3			VFI-SS-1	111		
onnectivity and function extensions						
Front panel		Graphic	display, mimic LED pane	l and keyboard, loc	al EPO	
Remote communication	external r Web interface	tional: input terminal naintenance bypass Ethernet), ModBus-TC	232 and USB; terminal bl block (remote emergency circuit breaker aux. cont. CP/IP (Ethernet), ModBus- note system monitoring p	y power off, battery , diesel mode aux. c .RTU (RS485), from /	circuit breaker aux. a cont.); SNMP adapter ModBus-RTU to PROF	cont., r (Ethernet), BUS DP adapter:
			ormer; transformers/auto			
Optional function extensions		load-sync for single I	om battery cabinets; wall- UPS; AO+EO mode kit; s packfeed protection (stanc	eparate input for rea	ctifier and bypass line	9
stem		load-sync for single I	om battery cabinets; wall- UPS; AO+EO mode kit; s packfeed protection (stanc	eparate input for red lard with 10, 15 and	ctifier and bypass line	9
		load-sync for single I	om battery cabinets; wall- UPS; AO+EO mode kit; s	eparate input for red lard with 10, 15 and	ctifier and bypass line	9
stem		load-sync for single I	om battery cabinets; wall- UPS; AO+EO mode kit; s packfeed protection (stanc	eparate input for red lard with 10, 15 and	ctifier and bypass line	9
s tem Protection degree		load-sync for single (nodels); parallel kit; b	om battery cabinets; wall- UPS; AO+EO mode kit; s packfeed protection (stanc	eparate input for red lard with 10, 15 and D	ctifier and bypass line 1 20 kVA ratings); oth	e
stem Protection degree Colour		load-sync for single (nodels); parallel kit; b	om battery cabinets; wall- UPS; AO+EO mode kit; s packfeed protection (stanc IP 20 RAL 70	eparate input for rea lard with 10, 15 and)))16 ide installation allow	ctifier and bypass line 1 20 kVA ratings); oth	9
stem Protection degree Colour Installation layout		load-sync for single (nodels); parallel kit; b	om battery cabinets; wall- UPS; AO+EO mode kit; s packfeed protection (stand IP 20 RAL 70 0 cm wall-gap, side by si	eparate input for rea lard with 10, 15 and))16 ide installation allow bottom cable entry	ctifier and bypass line 1 20 kVA ratings); oth	er options on reques
stem Protection degree Colour Installation layout Accessibility		load-sync for single (nodels); parallel kit; b	om battery cabinets; wall- UPS; AO+EO mode kit; s packfeed protection (stand IP 20 RAL 70 0 cm wall-gap, side by si	eparate input for rea lard with 10, 15 and))16 ide installation allow bottom cable entry	ctifier and bypass line I 20 kVA ratings); oth ed	er options on reques
stem Protection degree Colour Installation layout Accessibility Other features vironmental		load-sync for single (nodels); parallel kit; b	om battery cabinets; wall- UPS; AO+EO mode kit; s packfeed protection (stand IP 20 RAL 70 0 cm wall-gap, side by si	eparate input for rea lard with 10, 15 and 0 016 ide installation allow bottom cable entry *as per	ctifier and bypass line I 20 kVA ratings); oth ed	er options on reques
stem Protection degree Colour Installation layout Accessibility Sther features		load-sync for single (nodels); parallel kit; b	om battery cabinets; wall- UPS; AO+EO mode kit; s packfeed protection (stanc IP 20 RAL 70 0 cm wall-gap, side by si Front and top access,	eparate input for rea lard with 10, 15 and 0 016 ide installation allow bottom cable entry *as per 40°C	ctifier and bypass line I 20 kVA ratings); oth ed	er options on reques
stem Protection degree Colour Installation layout Accessibility Ther features vironmental Operating temperature range		load-sync for single I nodels); parallel kit; b 1	om battery cabinets; wall- UPS; AO+EO mode kit; s packfeed protection (stanc IP 20 RAL 70 0 cm wall-gap, side by si Front and top access, 0°C to +-	eparate input for rea lard with 10, 15 and 0 016 ide installation allow bottom cable entry *as per 40°C +70°C	ed EN 50171 **as	er options on reques
stem Protection degree Colour Installation layout Accessibility Cher features vironmental Operating temperature range Storage temperature range Altitude (AMSL)		load-sync for single I nodels); parallel kit; b 1	om battery cabinets; wall- UPS; AO+EO mode kit; s packfeed protection (stance IP 20 RAL 70 0 cm wall-gap, side by si Front and top access, 0°C to +- -10°C to +-	eparate input for rea lard with 10, 15 and 0 0 116 ide installation allow bottom cable entry * as per 40°C +70°C 0 m with reduction of	ed EN 50171 **as	er options on reques
stem Protection degree Colour Installation layout Accessibility Cher fectures vironmental Operating temperature range Storage temperature range Altitude (AMSL) Audible noise at 1 m (dBA)		load-sync for single I nodels); parallel kit; b 1	om battery cabinets; wall- UPS; AO+EO mode kit; s backfeed protection (stand IP 20 RAL 70 0 cm wall-gap, side by si Front and top access, 0°C to +- -10°C to + t power reduction, > 100	eparate input for rea lard with 10, 15 and 0 0 116 ide installation allow bottom cable entry * as per 40°C +70°C 0 m with reduction of	ed EN 50171 **as	er options on reques
stem Protection degree Colour Installation layout Accessibility Ther features vironmental Operating temperature range Storage temperature range Altitude (AMSL) Audible noise at 1 m (dBA) andards and certifications		load-sync for single I nodels); parallel kit; b 1	om battery cabinets; wall- UPS; AO+EO mode kit; s packfeed protection (stance IP 20 RAL 70 0 cm wall-gap, side by si Front and top access, 0°C to +- -10°C to +- t power reduction, > 100 <52	eparate input for rea lard with 10, 15 and 0 0 116 ide installation allow bottom cable entry *as per 40°C 670°C 10 m with reduction of	ed EN 50171 **as	er options on reques
stem Protection degree Colour Installation layout Accessibility Ther features vironmental Operating temperature range Storage temperature range Altitude (AMSL) Audible noise at 1 m (dBA) andards and certifications CPSS Quality assurance,		load-sync for single I nodels); parallel kit; b 1 < 1000 m withou	om battery cabinets; wall- UPS; AO+EO mode kit; s backfeed protection (stand IP 20 RAL 70 0 cm wall-gap, side by si Front and top access, 0°C to +- -10°C to + t power reduction, > 100	eparate input for rea lard with 10, 15 and 0 0 0 10 10 10 10 10 10 10 10 10 10 10	ed EN 50171 **as	er options on reques
stem Protection degree Colour Installation layout Accessibility Ther features vironmental Operating temperature range Storage temperature range Altitude (AMSL) Audible noise at 1 m (dBA) andards and certifications CPSS Quality assurance, environment, health and safety		load-sync for single I nodels); parallel kit; b 1 < 1000 m withou	om battery cabinets; wall- UPS; AO+EO mode kit; s backfeed protection (stand IP 20 RAL 70 0 cm wall-gap, side by si Front and top access, 0°C to + -10°C to + t power reduction, > 100 <52 EN 50 01:2008, ISO 14001:20	eparate input for rea lard with 10, 15 and 0 0 0 16 ide installation allow bottom cable entry * as per 40°C +70°C 0 m with reduction of 171 04, BS OHSAS 180	ed EN 50171 **as	er options on reques
stem Protection degree Colour Installation layout Accessibility Pther features vironmental Operating temperature range Storage temperature range Altitude (AMSL) Audible noise at 1 m (dBA) andards and certifications CPSS Quality assurance, environment, health and safety Safety		load-sync for single I nodels); parallel kit; b 1 < 1000 m withou	om battery cabinets; wall- UPS; AO+EO mode kit; s backfeed protection (stand IP 20 RAL 70 0 cm wall-gap, side by si Front and top access, 0°C to + -10°C to + t power reduction, > 100 <52 EN 50 D1:2008, ISO 14001:20 IEC/EN 62	eparate input for real lard with 10, 15 and 0 0 0 116 ide installation allow bottom cable entry * as per 40°C +70°C 0 m with reduction of 171 04, BS OHSAS 180 2040-1	ed EN 50171 **as	er options on reques
stem Protection degree Colour Installation layout Accessibility Pther features vironmental Operating temperature range Storage temperature range Altitude (AMSL) Audible noise at 1 m (dBA) andards and certifications CPSS Quality assurance, environment, health and safety Safety EMC		load-sync for single I nodels); parallel kit; b 1 < 1000 m withou	om battery cabinets; wall- UPS; AO+EO mode kit; s backfeed protection (stand IP 20 RAL 70 0 cm wall-gap, side by si Front and top access, 0°C to + -10°C to + -10°C to + t power reduction, > 100 <52 EN 50 01:2008, ISO 14001:20 IEC/EN 62 IEC/EN 62	eparate input for rea lard with 10, 15 and 0 0 0 116 ide installation allow bottom cable entry * as per 40°C +70°C 0 m with reduction of 171 04, BS OHSAS 180 2040-1 2040-2	ed EN 50171 **as	er options on reque:
stem Protection degree Colour Installation layout Accessibility Ther features vironmental Operating temperature range Storage temperature range Altitude (AMSL) Audible noise at 1 m (dBA) andards and certifications CPSS Quality assurance, environment, health and safety EMC Environmental aspects		load-sync for single I nodels); parallel kit; b 1 < 1000 m withou	om battery cabinets; wall- UPS; AO+EO mode kit; s backfeed protection (stance RAL 70 0 cm wall-gap, side by si Front and top access, 0°C to +- -10°C to +- -10°C to +- t power reduction, > 100 <52 EN 50° 01:2008, ISO 14001:20 IEC/EN 62 IEC/EN 62 IEC/EN 62	eparate input for rea lard with 10, 15 and 0 0 0 16 ide installation allow bottom cable entry * as per 40°C +70°C 0 m with reduction of 171 04, BS OHSAS 180 2040-1 2040-2 2040-4	ed EN 50171 **as	er options on reque
stem Protection degree Colour Installation layout Accessibility Pther features vironmental Operating temperature range Storage temperature range Altitude (AMSL) Audible noise at 1 m (dBA) andards and certifications CPSS Quality assurance, environment, health and safety Safety EMC		load-sync for single I nodels); parallel kit; b 1 < 1000 m withou	om battery cabinets; wall- UPS; AO+EO mode kit; s backfeed protection (stand IP 20 RAL 70 0 cm wall-gap, side by si Front and top access, 0°C to + -10°C to + -10°C to + t power reduction, > 100 <52 EN 50 01:2008, ISO 14001:20 IEC/EN 62 IEC/EN 62	eparate input for real ard with 10, 15 and bottom cable entry * as per 40°C +70°C 0 m with reduction of 171 04, BS OHSAS 180 2040-1 2040-2 2040-4 2040-3	ed EN 50171 **as	er options on reque:

INGENIO ECS technical data

Rating (kVA)	60	80	100	125	160		
Nominal power (kW)	60	80	100	125	160		
Nominal power as per EN 50171 (kW)	50	67	83	104	133		
UPS dimensions WxDxH (mm)			560x940x1800				
UPS weight (kg)	250	300	320	360	380		
Battery configuration		Externa	al 360 to 372 cells, VRLA (c	ther options)			
nput							
Connection type		He	ardwired 4w (rectifier), 4w	(bypass)			
Nominal voltage	400 Vac 3-phase with neutral (rectifier) 380/400/415 Vac 3-phase with neutral (bypass)						
Voltage tolerance		-20%, +15% (rectifier) ±10% (bypass)					
Frequency and range		50/60 Hz, 45 to 65 Hz					
Power factor			>0.99				
Current distortion (THDi)			<3%				
Dutput							
Connection type			Hardwired 4w				
Nominal voltage			0/400/415 Vac 3-phase w	ith neutral			
Frequency			50/60 Hz				
Voltage regulation			Static: ±1%; dynamic: IEC/EN 62040-3	Class 1			
Power factor			Up to 1, without power de				
			120% continuous;	ت			
Overload capacity*			150% for 10 min;				
			180% for 60 s				
Efficiency (AC/AC)**			Up to 99%				
Classification as per IEC/EN 62040-3			VFI-SS-111				
Connectivity and function extension	ns						
Front panel		Included: serial	olay, mimic LED panel and k I RS232 and USB; backfeed	protection monitoring conta	ict,		
Front panel		Included: serial input terminal block external maintenar nal: SNMP adapter (Etherne from ModBus	I RS232 and USB; backfeed (remote emergency power of nce bypass circuit breaker of et), Web interface (Ethernet) RTU to PROFIBUS DP adapt	protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux.	x. cont., cont.). NodBus-RTU (RS485), I;		
	Optic e ba	Included: serial input terminal block external maintenar onal: SNMP adapter (Etherne from ModBus remote system ma Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate	I RS232 and USB; backfeed (remote emergency power of nce bypass circuit breaker of et), Web interface (Ethernet) RTU to PROFIBUS DP adapt ponitoring panel; UPS manag ; transformers/autotransform ; custom battery cabinets; w I kit, load-sync for single UP input for rectifier and bypa	I protection monitoring conta off, battery circuit breaker au uux, cont., diesel mode aux. ModBus-TCP/IP (Ethernet), <i>I</i> er; SPDT contact relay board ing and server shutdown soft ners for voltage adjustment; all-mounted battery fuse swit 5 and load-sync box (2 UPS	x. cont., cont.). ModBus-RTU (RS485), l; wrare wrare ch box; systems); odels);		
Remote communication Optional function extension	Optic e ba	Included: serial input terminal block external maintenar onal: SNMP adapter (Etherne from ModBus remote system ma Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate	I RS232 and USB; backfeed (remote emergency power of nce bypass circuit breaker of et), Web interface (Ethernet) RTU to PROFIBUS DP adapt ponitoring panel; UPS manag ; transformers/autotransform ; custom battery cabinets; w I kit, load-sync for single UP input for rectifier and bypa	I protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP (Ethernet), I er; SPDT contact relay board ing and server shutdown soft ners for voltage adjustment; all-mounted battery fuse swit 5 and load-sync box (2 UPS is s line (for 3-phase output mc	x. cont., cont.). ModBus-RTU (RS485), l; wrare wrare ch box; systems); odels);		
Remote communication	Optic e ba	Included: serial input terminal block external maintenar onal: SNMP adapter (Etherne from ModBus remote system ma Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate	I RS232 and USB; backfeed (remote emergency power of nce bypass circuit breaker of et), Web interface (Ethernet) RTU to PROFIBUS DP adapt ponitoring panel; UPS manag ; transformers/autotransform ; custom battery cabinets; w I kit, load-sync for single UP input for rectifier and bypa	I protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP (Ethernet), I er; SPDT contact relay board ing and server shutdown soft ners for voltage adjustment; all-mounted battery fuse swit 5 and load-sync box (2 UPS is s line (for 3-phase output mc	x. cont., cont.). ModBus-RTU (RS485), l; wrare wrare ch box; systems); odels);		
Remote communication Optional function extension	Optic e ba	Included: serial input terminal block external maintenar onal: SNMP adapter (Etherne from ModBus remote system ma Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate	I RS232 and USB; backfeed (remote emergency power of nce bypass circuit breaker of et), Web interface (Ethernet) RTU to PROFIBUS DP adaption itoring panel; UPS manage ; transformers/autotransform ; custom battery cabinets; w I kit, load-sync for single UP input for rectifier and bypa ard with 10, 15 and 20 kVA	I protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP (Ethernet), I er; SPDT contact relay board ing and server shutdown soft ners for voltage adjustment; all-mounted battery fuse swit 5 and load-sync box (2 UPS is s line (for 3-phase output mc	x. cont., cont.). ModBus-RTU (RS485), l; wrare wrare ch box; systems); odels);		
Remote communication Optional function extension System Protection degree	Optic e: ba	Included: serial input terminal block external maintenar onal: SNMP adapter (Etherne from ModBus remote system ma Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate	I RS232 and USB; backfeed (remote emergency power of nee bypass circuit breaker of et), Web interface (Ethernet) FTU to PROFIBUS DP adaption intoring panel; UPS manage ; transformers/autotransform ; custom battery cabinets; w l kit, load-sync for single UP, input for rectifier and bypa ard with 10, 15 and 20 kVA IP 20 RAL 9005	I protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP (Ethernet), <i>I</i> er; SPDT contact relay board ing and server shutdown soft ners for voltage adjustment; all-mounted battery fuse swit S and load-sync box (2 UPS is line (for 3-phase output mo ratings); other options on re	x. cont., cont.). ModBus-RTU (RS485), ;; ware ch box; systems); odels); equest		
Remote communication Optional function extension System Protection degree Colour	Optic e: ba	Included: serial input terminal block external maintenar nal: SNMP adapter (Etherne from ModBus remote system mo Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate backfeed protection (standa	I RS232 and USB; backfeed (remote emergency power of nee bypass circuit breaker of et), Web interface (Ethernet) FTU to PROFIBUS DP adaption intoring panel; UPS manage ; transformers/autotransform ; custom battery cabinets; w l kit, load-sync for single UP, input for rectifier and bypa ard with 10, 15 and 20 kVA IP 20 RAL 9005	protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP (Ethernet), <i>I</i> er; SPDT contact relay board ing and server shutdown soft ners for voltage adjustment; all-mounted battery fuse swit 5 and load-sync box (2 UPS is line (for 3-phase output mo ratings); other options on re	x. cont., cont.). ModBus-RTU (RS485), ;; ware ch box; systems); odels); equest		
Remote communication Optional function extension System Protection degree Colour Installation layout	Optic e ba Wal	Included: serial input terminal block external maintenar nal: SNMP adapter (Etherne from ModBus remote system mo Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate backfeed protection (standa	I RS232 and USB; backfeed (remote emergency power of nce bypass circuit breaker of et), Web interface (Ethernet) RTU to PROFIBUS DP adaption intoring panel; UPS manage ; transformers/autotransform ; custom battery cabinets; w I kit, load-sync for single UP input for rectifier and bypa ard with 10, 15 and 20 kVA IP 20 RAL 9005 on allowed, 80 cm clearance	protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP (Ethernet), <i>I</i> er; SPDT contact relay board ing and server shutdown soft ners for voltage adjustment; all-mounted battery fuse swit 5 and load-sync box (2 UPS is line (for 3-phase output mo ratings); other options on re	x. cont., cont.). ModBus-RTU (RS485), ;; ware ch box; systems); odels); equest		
Remote communication Optional function extension System Protection degree Colour Installation layout Accessibility * as per EN 50171 ** as per	Optic e ba Wal	Included: serial input terminal block external maintenar nal: SNMP adapter (Etherne from ModBus remote system mo Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate backfeed protection (standa	I RS232 and USB; backfeed (remote emergency power of nce bypass circuit breaker of et), Web interface (Ethernet) RTU to PROFIBUS DP adaption intoring panel; UPS manage ; transformers/autotransform ; custom battery cabinets; w I kit, load-sync for single UP input for rectifier and bypa ard with 10, 15 and 20 kVA IP 20 RAL 9005 on allowed, 80 cm clearance	protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP (Ethernet), <i>I</i> er; SPDT contact relay board ing and server shutdown soft ners for voltage adjustment; all-mounted battery fuse swit 5 and load-sync box (2 UPS is line (for 3-phase output mo ratings); other options on re	x. cont., cont.). ModBus-RTU (RS485), ;; ware ch box; systems); odels); equest		
Remote communication Optional function extension System Protection degree Colour Installation layout Accessibility	Optic e ba Wal	Included: serial input terminal block external maintenar nal: SNMP adapter (Etherne from ModBus remote system mo Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate backfeed protection (standa	I RS232 and USB; backfeed (remote emergency power of nce bypass circuit breaker of et), Web interface (Ethernet) RTU to PROFIBUS DP adaption intoring panel; UPS manage ; transformers/autotransform ; custom battery cabinets; w I kit, load-sync for single UP input for rectifier and bypa ard with 10, 15 and 20 kVA IP 20 RAL 9005 on allowed, 80 cm clearance	protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP (Ethernet), <i>I</i> er; SPDT contact relay board ing and server shutdown soft ners for voltage adjustment; all-mounted battery fuse swit 5 and load-sync box (2 UPS is line (for 3-phase output mo ratings); other options on re	x. cont., cont.). ModBus-RTU (RS485), ;; ware ch box; systems); odels); equest		
Remote communication Optional function extension System Protection degree Colour Installation layout Accessibility * as per EN 50171 ** as per	Optic e ba Wal	Included: serial input terminal block external maintenar nal: SNMP adapter (Etherne from ModBus remote system mo Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate backfeed protection (standa	I RS232 and USB; backfeed (remote emergency power of nce bypass circuit breaker of et), Web interface (Ethernet) RTU to PROFIBUS DP adaption intoring panel; UPS manage ; transformers/autotransform ; custom battery cabinets; w I kit, load-sync for single UP input for rectifier and bypa ard with 10, 15 and 20 kVA IP 20 RAL 9005 on allowed, 80 cm clearance	protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP (Ethernet), <i>I</i> er; SPDT contact relay board ing and server shutdown soft ners for voltage adjustment; all-mounted battery fuse swit 5 and load-sync box (2 UPS is line (for 3-phase output mo ratings); other options on re	x. cont., cont.). ModBus-RTU (RS485), ;; ware ch box; systems); odels); equest		
Remote communication Optional function extension System Protection degree Colour Installation layout Accessibility * as per EN 50171 ** as per Other features	Optic e. ba Wal IEC/EN 62040-3	Included: serial input terminal block external maintenar nal: SNMP adapter (Etherne from ModBus remote system mo Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate backfeed protection (standa	I RS232 and USB; backfeed (remote emergency power of nce bypass circuit breaker of et), Web interface (Ethernet) RTU to PROFIBUS DP adaption intoring panel; UPS manage ; transformers/autotransform ; custom battery cabinets; w I kit, load-sync for single UP input for rectifier and bypa ard with 10, 15 and 20 kVA IP 20 RAL 9005 on allowed, 80 cm clearance	protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP (Ethernet), <i>I</i> er; SPDT contact relay board ing and server shutdown soft ners for voltage adjustment; all-mounted battery fuse swit 5 and load-sync box (2 UPS is line (for 3-phase output mo ratings); other options on re e on one side only with interr ttery), bottom cable entry	x. cont., cont.). ModBus-RTU (RS485), ;; ware ch box; systems); odels); equest		
Remote communication Optional function extension System Protection degree Colour Installation layout Accessibility *as per EN 50171 **as per Other features Environmental	Optic e. ba Wal IEC/EN 62040-3	Included: serial input terminal block external maintenar nal: SNMP adapter (Etherne from ModBus remote system mo Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate backfeed protection (standa	I RS232 and USB; backfeed (remote emergency power of nce bypass circuit breaker of et), Web interface (Ethernet) RTU to PROFIBUS DP adaption intoring panel; UPS manage ; transformers/autotransform ; custom battery cabinets; w I kit, load-sync for single UP input for rectifier and bypa ard with 10, 15 and 20 kVA IP 20 RAL 9005 on allowed, 80 cm clearance access (only with internal bo	protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP (Ethernet), <i>I</i> er; SPDT contact relay board ing and server shutdown soft ners for voltage adjustment; all-mounted battery fuse swit 5 and load-sync box (2 UPS is line (for 3-phase output mo ratings); other options on re e on one side only with interr ttery), bottom cable entry	x. cont., cont.). ModBus-RTU (RS485), ;; ware ch box; systems); odels); equest		
Remote communication Optional function extension System Protection degree Colour Installation layout Accessibility * as per EN 50171 ** as per Other features Environmental Operating temperature rang	Optic e. ba Wal IEC/EN 62040-3	Included: serial input terminal block external maintenar mal: SNMP adapter [Etherne from ModBus remote system mo Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate backfeed protection (standa	I RS232 and USB; backfeed (remote emergency power of nee bypass circuit breaker of ett), Web interface [Ethernet] RTU to PROFIBUS DP adapt ponitoring panel; UPS manag ; transformers/autotransform ; custom battery cabinets; w I kit, load-sync for single UP input for rectifier and bypa ard with 10, 15 and 20 kVA IP 20 RAL 9005 on allowed, 80 cm clearance access (only with internal bo 0°C to +40°C -10°C to +70°	protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP (Ethernet), <i>I</i> er; SPDT contact relay board ing and server shutdown soft ners for voltage adjustment; all-mounted battery fuse swit 5 and load-sync box (2 UPS is line (for 3-phase output mo ratings); other options on re e on one side only with interr ttery), bottom cable entry	x. cont., cont.). ModBus-RTU (RS485), j; ware ch box; systems); odels); equest nal battery		
Remote communication Optional function extension Dystem Protection degree Colour Installation layout Accessibility * as per EN 50171 ** as per Other features Environmental Operating temperature rang Storage temperature rang	Optic e: ba Wal IEC/EN 62040-3	Included: serial input terminal block external maintenar mal: SNMP adapter [Etherne from ModBus remote system mo Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate backfeed protection (standa	I RS232 and USB; backfeed (remote emergency power of nee bypass circuit breaker of ett), Web interface [Ethernet] RTU to PROFIBUS DP adapt ponitoring panel; UPS manag ; transformers/autotransform ; custom battery cabinets; w I kit, load-sync for single UP input for rectifier and bypa ard with 10, 15 and 20 kVA IP 20 RAL 9005 on allowed, 80 cm clearance access (only with internal bo 0°C to +40°C -10°C to +70°	protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP (Ethernet), <i>I</i> er; SPDT contact relay board ing and server shutdown soft ners for voltage adjustment; all-mounted battery fuse swit 5 and load-sync box (2 UPS is line (for 3-phase output mo ratings); other options on re a on one side only with interr ttery), bottom cable entry C	x. cont., cont.). ModBus-RTU (RS485), j; ware ch box; systems); odels); equest nal battery		
Remote communication Optional function extension System Protection degree Colour Installation layout Accessibility * as per EN 50171 ** as per Other features Environmental Operating temperature rang Storage temperature rang Altitude (AMSL)	Optic e: ba Wal IEC/EN 62040-3	Included: serial input terminal block external maintenar mal: SNMP adapter [Etherne from ModBus remote system mo Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate backfeed protection (standa	I RS232 and USB; backfeed (remote emergency power of nce bypass circuit breaker of et), Web interface (Ethernet) RTU to PROFIBUS DP adaption intoring panel; UPS manage ; transformers/autotransform ; custom battery cabinets; w I kit, load-sync for single UP input for rectifier and bypa and with 10, 15 and 20 kVA IP 20 RAL 9005 on allowed, 80 cm clearance access (only with internal bo 0°C to +40°C -10°C to +70° power reduction, > 1000 m	protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP (Ethernet), <i>I</i> er; SPDT contact relay board ing and server shutdown soft ners for voltage adjustment; all-mounted battery fuse swit 5 and load-sync box (2 UPS is line (for 3-phase output mo ratings); other options on re a on one side only with interr ttery), bottom cable entry C	x. cont., cont.). ModBus-RTU (RS485), j; ware ch box; systems); odels); equest nal battery		
Remote communication Optional function extension System Protection degree Colour Installation layout Accessibility *as per EN 50171 **as per Other features Environmental Operating temperature rang Storage temperature rang Altitude (AMSL) Audible noise at 1 m (dBA	Optic e ba Wal IEC/EN 62040-3	Included: serial input terminal block external maintenar nal: SNMP adapter [Etherne from ModBus remote system ma Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate backfeed protection (standa	I RS232 and USB; backfeed (remote emergency power of nce bypass circuit breaker of et), Web interface (Ethernet) RTU to PROFIBUS DP adaption intoring panel; UPS manage ; transformers/autotransform ; custom battery cabinets; w I kit, load-sync for single UP input for rectifier and bypa and with 10, 15 and 20 kVA IP 20 RAL 9005 on allowed, 80 cm clearance access (only with internal bo 0°C to +40°C -10°C to +70° power reduction, > 1000 m	protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP (Ethernet), / er; SPDT contact relay board ing and server shutdown soft all-mounted battery fuse swit 5 and load-sync box (2 UPS is line (for 3-phase output mo ratings); other options on re- ratings); other options on re- e on one side only with interr ttery), bottom cable entry	x. cont., cont.). ModBus-RTU (RS485), j; ware ch box; systems); odels); equest nal battery		
Remote communication Optional function extension System Protection degree Colour Installation layout Accessibility * as per EN 50171 ** as per Other features Environmental Operating temperature rang Storage temperature rang Altitude (AMSL) Audible noise at 1 m (dBA Standards and certifications Quality assurance,	Optic e ba Wal IEC/EN 62040-3	Included: serial input terminal block external maintenar nal: SNMP adapter [Etherne from ModBus remote system ma Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate backfeed protection (standa	I RS232 and USB; backfeed (remote emergency power of nee bypass circuit breaker of ett), Web interface (Ethernet) RTU to PROFIBUS DP adaption itoring panel; UPS manage ; transformers/autotransform ; custom battery cabinets; will kit, load-sync for single UP- input for rectifier and bypa ard with 10, 15 and 20 kVA IP 20 RAL 9005 on allowed, 80 cm clearance access (only with internal bo 0°C to +40°C -10°C to +70° power reduction, > 1000 m <60	protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP [Ethernet], <i>I</i> er; SPDT contact relay board ing and server shutdown soft hers for voltage adjustment; all-mounted battery fuse swit 5 and load-sync box (2 UPS is line (for 3-phase output mo ratings); other options on re a on one side only with interr ttery), bottom cable entry c C with reduction of 0.5% per BS OHSAS 18001:2007	x. cont., cont.). ModBus-RTU (RS485), j; ware ch box; systems); odels); equest nal battery		
Remote communication Optional function extension System Protection degree Colour Installation layout Accessibility * as per EN 50171 ** as per Other features Environmental Operating temperature rang Altitude (AMSL) Audible noise at 1 m (dBA Standards and certifications Quality assurance, environment, health and sat	Optic e ba Wal IEC/EN 62040-3	Included: serial input terminal block external maintenar nal: SNMP adapter [Etherne from ModBus remote system ma Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate backfeed protection (standa	I RS232 and USB; backfeed (remote emergency power of nee bypass circuit breaker of ett), Web interface [Ethernet] RTU to PROFIBUS DP adapt ponitoring panel; UPS manag ; transformers/autotransform ; custom battery cabinets; w l kit, load-sync for single UP input for rectifier and bypa ard with 10, 15 and 20 kV/ IP 20 RAL 9005 on allowed, 80 cm clearance access (only with internal bo 0°C to +40°C -10°C to +70° power reduction, > 1000 m <60	protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP [Ethernet], / er; SPDT contact relay board ing and server shutdown soft all-mounted battery fuse swit 5 and load-sync box (2 UPS is line (for 3-phase output mo ratings); other options on re- ratings); other options on re- e on one side only with interr ttery), bottom cable entry c c c with reduction of 0.5% per BS OHSAS 18001:2007	x. cont., cont.). ModBus-RTU (RS485), j; ware ch box; systems); odels); equest nal battery		
Remote communication Optional function extension Protection degree Colour Installation layout Accessibility * as per EN 50171 ** as per Other features Environmental Operating temperature rang Altitude (AMSL) Audible noise at 1 m (dBA Standards and certifications Quality assurance, environment, health and safety	Optic e ba Wal IEC/EN 62040-3	Included: serial input terminal block external maintenar nal: SNMP adapter [Etherne from ModBus remote system ma Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate backfeed protection (standa	I RS232 and USB; backfeed (remote emergency power of nee bypass circuit breaker of ett), Web interface (Ethernet) RTU to PROFIBUS DP adaption itoring panel; UPS manage ; transformers/autotransform ; custom battery cabinets; will kit, load-sync for single UP- input for rectifier and bypa ard with 10, 15 and 20 kV/A IP 20 RAL 9005 on allowed, 80 cm clearance access (only with internal bo 0°C to +40°C -10°C to +70° power reduction, > 1000 m <60 I1:2008, ISO 14001:2004, IEC/EN 62040	protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP (Ethernet), <i>I</i> er; SPDT contact relay board ing and server shutdown soft hers for voltage adjustment; all-mounted battery fuse swit 5 and load-sync box (2 UPS is line (for 3-phase output mo ratings); other options on re e on one side only with interr ttery), bottom cable entry c C with reduction of 0.5% per BS OHSAS 18001:2007 h1	x. cont., cont.). ModBus-RTU (RS485), j; ware ch box; systems); odels); equest nal battery		
Remote communication Optional function extension System Protection degree Colour Installation layout Accessibility * as per EN 50171 ** as per Other features Storage temperature rang Altitude (AMSL) Audible noise at 1 m (dBA Standards and certifications Quality assurance, environment, health and sat Safety EMC	Optic e ba Wal IEC/EN 62040-3	Included: serial input terminal block external maintenar nal: SNMP adapter [Etherne from ModBus remote system ma Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate backfeed protection (standa	I RS232 and USB; backfeed (remote emergency power of nee bypass circuit breaker of ett), Web interface (Ethernet) RTU to PROFIBUS DP adaption ponitoring panel; UPS manage ; transformers/autotransform ; custom battery cabinets; w I kit, load-sync for single UP input for rectifier and bypa and with 10, 15 and 20 kV/ IP 20 RAL 9005 on allowed, 80 cm clearance access (only with internal bo 0°C to +40°C -10°C to +70° power reduction, > 1000 m <60 1:2008, ISO 14001:2004, IEC/EN 62040	protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP [Ethernet], <i>I</i> er; SPDT contact relay board ing and server shutdown soft hers for voltage adjustment; all-mounted battery fuse swit 5 and load-sync box (2 UPS is line (for 3-phase output mo ratings); other options on re a on one side only with interr ttery), bottom cable entry c C with reduction of 0.5% per BS OHSAS 18001:2007 h1 0-2 0-4	x. cont., cont.). ModBus-RTU (RS485), j; ware ch box; systems); odels); equest nal battery		
Remote communication Optional function extension System Protection degree Colour Installation layout Accessibility *as per EN 50171 **as per Other features Environmental Operating temperature rang Altitude (AMSL) Audible noise at 1 m (dBA Standards and certifications Quality assurance, environment, health and saf Safety EMC Environmental aspects	Optic e ba Wal IEC/EN 62040-3	Included: serial input terminal block external maintenar nal: SNMP adapter [Etherne from ModBus remote system ma Isolation transformer; xternal maintenance bypass; ttery thermal probe; parallel AO+EO mode kit; separate backfeed protection (standa	I RS232 and USB; backfeed (remote emergency power of nee bypass circuit breaker of et), Web interface [Ethernet] RTU to PROFIBUS DP adaption intoring panel; UPS manage ; transformers/autotransform ; custom battery cabinets; w l kit, load-sync for single UP input for rectifier and bypa ard with 10, 15 and 20 kV/ IP 20 RAL 9005 on allowed, 80 cm clearance access (only with internal bo 0°C to +40°C -10°C to +70° power reduction, > 1000 m <60 1:2008, ISO 14001:2004, IEC/EN 62040 IEC/EN 62040	protection monitoring conta off, battery circuit breaker au ux. cont., diesel mode aux. ModBus-TCP/IP [Ethernet], <i>I</i> er; SPDT contact relay board ing and server shutdown soft hers for voltage adjustment; all-mounted battery fuse swit 5 and load-sync box (2 UPS is line (for 3-phase output mo ratings); other options on re a on one side only with interr ttery), bottom cable entry c C with reduction of 0.5% per BS OHSAS 18001:2007 h1 0-2 0-4	x. cont., cont.). ModBus-RTU (RS485), j; ware ch box; systems); odels); equest nal battery		

OMG60185revA - 08-2017 - Due to our policy of continuous development, data in this document is subject to change without notice and becomes contractual only after written confirmation

Borri S.p.A. Via 8 Marzo, 2 · 52010 Bibbiena (AR) Italy · Tel. +39 0575 5351 · Fax +39 0575 561811 · info@borri.it · www.borri.it