SuperTorque 8ZR

Factory Packaged Complete Genset Starting System

8Z + BBS + BCS + Disconnects + Racking

Prewired. Preassembled. Single part number.

10-year full warranty

cUL Listed & seismic certified

Configured for your genset & redundancy

Contact
Stored Energy Systems LLC
Longmont, Colorado, USA

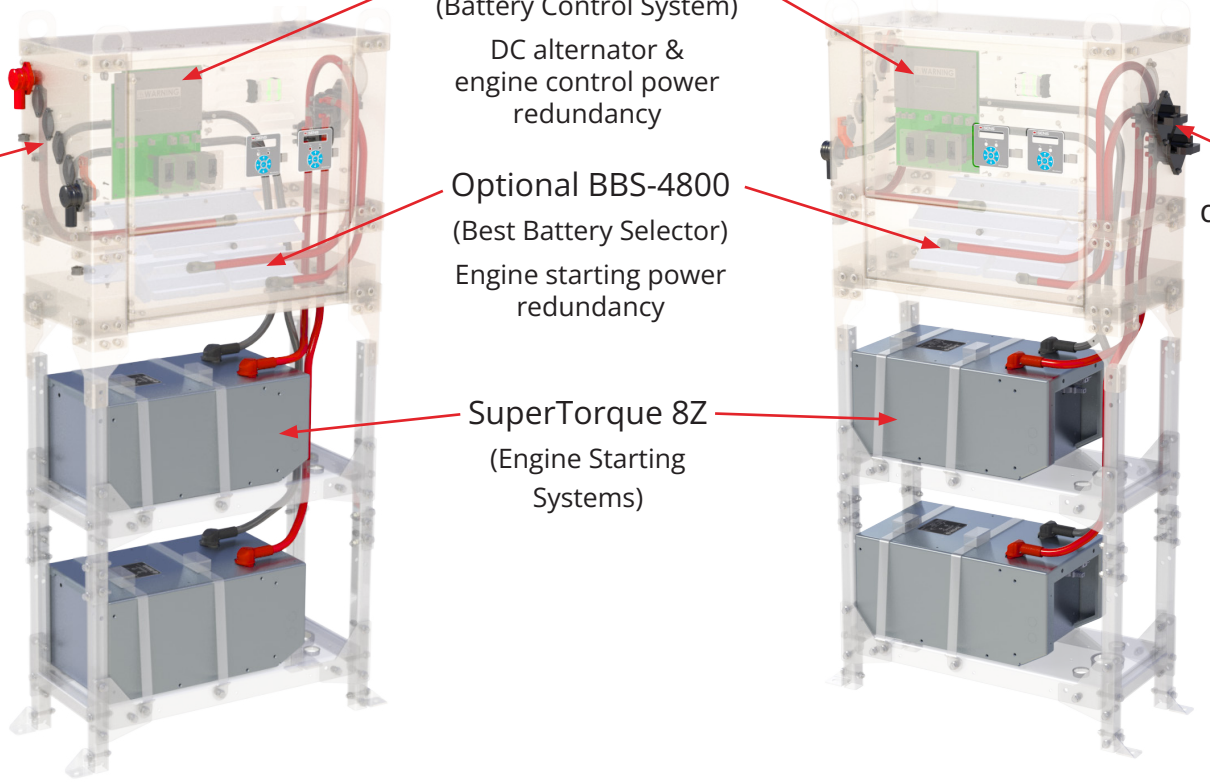
www.sens-usa.com
(303) 678-7500
info@sens-usa.com

CAD drawings, firmware, certifications, and technical documentation are available on our website.

Mission critical reliability

Fully integrated system

For mission critical gensets, the SuperTorque® 8Z has revolutionized industrial engine starting. The new SuperTorque® 8ZR is a complete system. It radically increases engine starting reliability, frees up significant space in engine enclosures, eliminates battery maintenance and replacement, and makes specification and installation of the entire engine DC system so much simpler.



Various configurations to accommodate space restrictions and power needs:

- Max height: 74.8in
- Max width: 60.8in
- Max depth: 12.4in

Save Space, Save Money, Eliminate Headaches

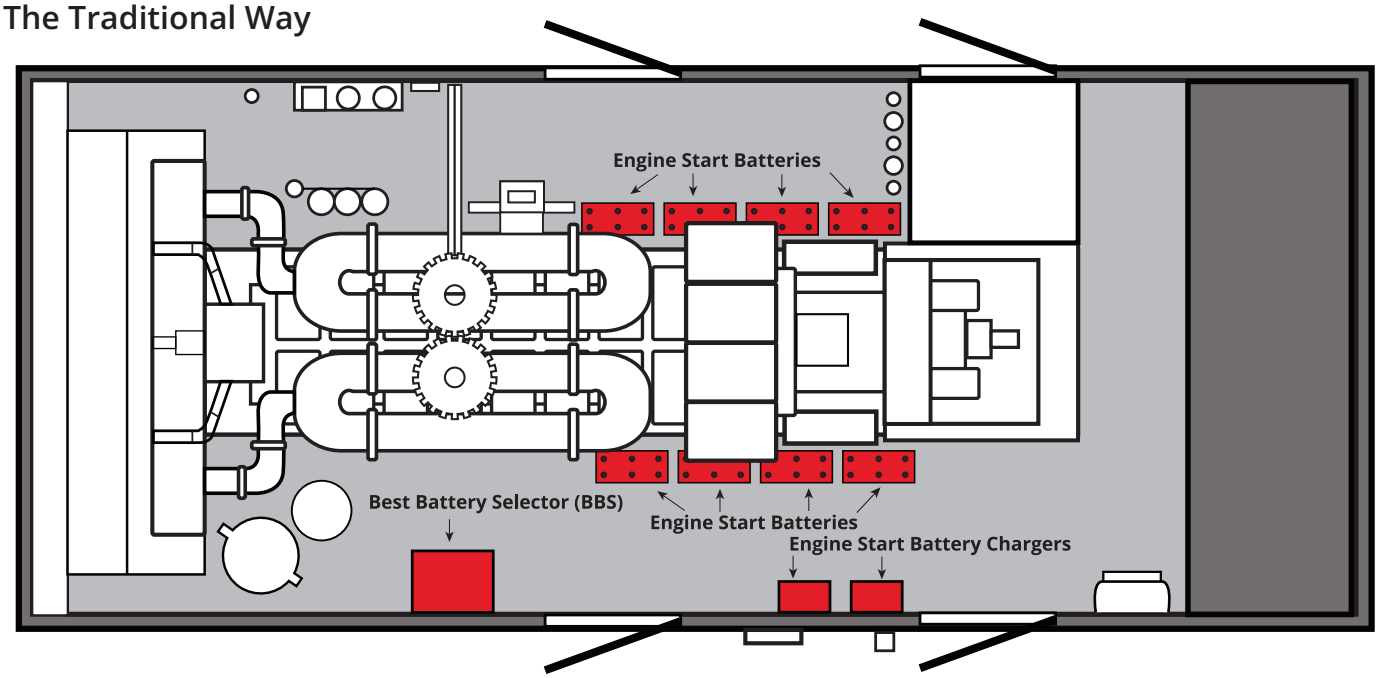
The SuperTorque 8ZR radically increases engine starting reliability, frees up significant space in engine enclosures, and significantly cuts installation time.

Eliminate having to purchase and install batteries, racks, chargers, cables, conduits, terminals, disconnects.

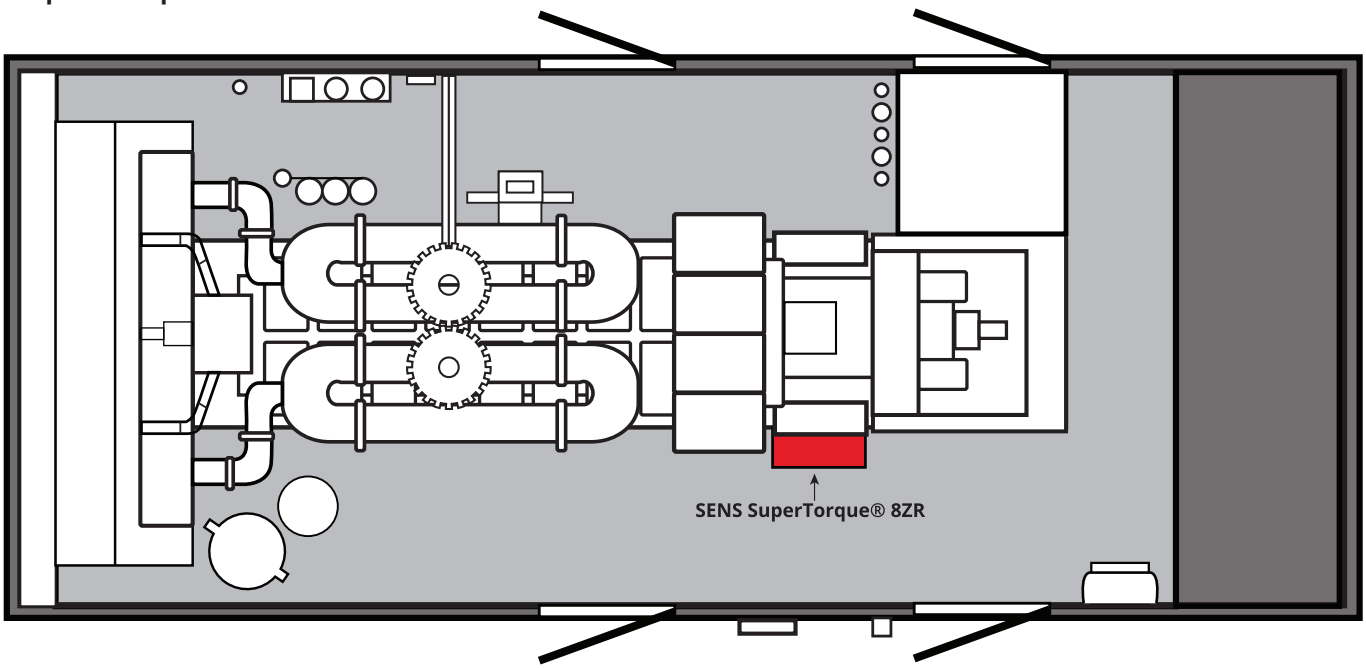
Specify, order, and install the super compact 8ZR with a single part number.

Engine / Generator Enclosure

The Traditional Way



SuperTorque 8ZR



Specifications for SuperTorque 8ZR

System Parameters	8Z modules	1 – 4 8Z modules per unit
	8Z configuration	8ZR can be configured with 1, 2 or 3 isolated DC output banks, maximum of 3 8Z modules per output bank
	DC disconnects	DC disconnects standard, 1 disconnect per output bank
	Best battery selector	Optional internal BBS-4800, couples 2 isolated output banks for a single redundant starting output
	Battery control system	Optional internal BCS-120, couples 2 isolated output banks for a single redundant engine control power output and couples the engine DC alternator output to 2 isolated output banks
	Rack configuration (8Z layout, height by width)	1H x 1W, 2H x 1W, 3H x 1W, 1H x 2W, 2H x 2W
	Rack-to-engine DC cables	Optional, 6ft, 10ft, and 15ft lengths. 4/0AWG cables with 1/2in lugs on starter side
AC Input (per 8Z module)	VAC, Hz	90-265VAC single-phase, 47-63Hz, 1 AC input per output bank
	Current (max)	12VDC: 3A 24VDC: 4A
	Power factor & efficiency	PF >.95 typical; efficiency to 93%; meets CEC Title 20 Efficiency Regulations; standby AC draw < 3W
Engine Starting Performance	Typical cranking current per 8Z module	2,700 amps at breakaway while maintaining battery terminal voltage above 12.0 volts (24V model). Rolling current is typically ~30% of breakaway (locked rotor) current.
	Engine displacement	Configurable for engines up to 110 liters
	Typical crank cycles	Minimum of 6x 15s crank sequences, per NFPA 110 standard
	Redundancy	Optional, achieved via: • N+1 – an extra 8Z module for the output bank • N+1 or N+N - multiple isolated output banks • N+N - integrated Best Battery Selector
Internal Nickel Zinc Battery System	Volts	24VDC nominal, 28.4VDC float voltage, 30.4VDC boost voltage, 31.5VDC maximum voltage Note – this system charges at similar voltage levels as NiCd, ensure engine high voltage DC alarm is set at 32VDC
	Battery capacity	80Ah per 8Z module
	Output banks	Up to 3 separate output banks, each bank requires same number of 8Z modules. Each bank includes independent display and status.
	Recharge rate	12-15A per 8Z module. Maximum recharge time 8hrs.
	Battery temp. compensation	Standard
	Battery charging	Patented factory programmed NiZn charging
Status display	Metering & status display	One display with AC and DC LEDs per output bank. Battery voltage accurate to +1%; charger current to +1%; 20-character display of status & alarms.
	Quiescent draw per 8Z module	237mA at 12VDC or 123mA at 24VDC max quiescent draw with AC disconnected and module not in “Sleep” mode
Alarms	Alarms	Factory set, field reconfigurable. Alarm functions announced on the J1939 and Modbus ports and on the LCD. Any one of 20+ alarms or any combination of alarms is assignable to any Form C contact.
	Alarms: Form C contacts	Five Form C contacts per output bank, each rated 30V, 2A resistive, assignable
Networking	J1939 communications	CAN 2.0 extended ID on RJ45 port
	Modbus communications	Modbus RS-485 or TCP/IP on RJ45 port
	SENSbus	Proprietary bus for connection of paralleled units and SENS accessories
	USB	USB-C connectivity via SENS Setup Utility
Environmental	Operating temperature	-10°C to +55°C; charging 0°C to +45°C; storage -20°C to +60°C
	Humidity	5% to 95%, non-condensing
	Altitude	Full specification 0 to 13,000 ft (0 to 4000 m)
	Ingress protection	IP2X, NEMA 1
	Vibration & shock resistance	Vib: Swept Sine (EN60068-2-6): 4G, 18-500 Hz, 3 axes. Random: 20-500Hz, .01G2/Hz. Shock: EN 60068-2-27 (15G)
	Electrical transient	ANSI/IEEE C62.41 & EN 61000-4-12 on power terminals
Abuse Protection	Overvoltage shutdown	Selective; shutdown only operates if the overvoltage condition is caused by the internal charger itself
	Overtemperature protection	Gradual output power reduction if 8Z charging module temperature becomes excessive; recovery is automatic
Regulatory compliance	North America	C-UL Listed for US & Canada, UL file MH66088. UL tested to +40°C.
		NFPA-70
		FCC Part 15, Class B
		Seismic: Rigid & non-isolated floor mount; max SDS of 2.5G, z/h = 0, Ip = 1.5. IBC 2000-2021, Calif. BC 2007-2021
	European Union (CE), United Kingdom (UKCA)	EMC: 2014/30/EU, UK 2016 (EN 61000-6-2 & EN 61000-6-4)
		LVD/Safety: 2014/35/EU, UK 2016 (EN 60335-1 & EN 60335-2-29)
		RoHS: 2015/863, UK 2012 (EN 63000)
		Battery Directive: 2006/66/EC
Construction	Housing/configuration	Floor-mounted steel rack with powder coated finish
Connections	AC	14-10AWG terminal blocks
	Engine starter	M10 threaded insert for positive and negative, standard. M8 without standard termination panel.
	BCS-120	1/0-8AWG terminal blocks for alternator and engine panel connections
	Alarms & comms	J1939 and Modbus TCP/IP: RJ45; Modbus RS-485 and Form C alarms: 28-16AWG terminal blocks

How to Order SuperTorque 8ZR

Product Family	-	DC Voltage & Capacity	Charging Current	-	Termination Panel	Control & Communication	-	# of 8Z Units	Rack Layout	Banks (channels)	-	DC Isolation	Battery Monitoring	Confirguation	-	Starter Cables
8R	-	A	1	-	L	A	-	3	3	1	-	0	0	A	-	2
A		B	C		D	E		F	G	H		I	J	K		L

	Parameter	Code	Value
A	Product Family	8R	Supertorque 8Z rack
B	DC Voltage & Capacity	0 A	No batteries 24V 80AH
C	Charging Current	1	15A
D	Termination Panel	0 S L	None AC/Coms Only AC/Coms/DC (includes DC disconnects)
E	Control & Communication	A	LCD Display, keypad, (5) form-C relays, USB-C, RS-485 and TCP/IP Modbus
F	Number of 8Z Super-Torque Units	0 1 2 3 4	No 8Zs Units 1 8Z Unit 2 8Z Units 3 8Z Units 4 8Z Units
G	Rack Layout	1 2 3 A B	1H X 1W 2H X 1W 3H X 1W 1H X 2W 2H X 2W
H	Banks (Channels)	0 1 2 3	No panel and no wiring 1 Bank 2 Banks 3 Banks Note: max of 3 8Zs per bank, all banks must have the same number of 8Zs
I	DC Isolation	0 A B C	No isolation BCS - Battery Control System BBS - Best Battery Selector BCS & BBS Note: DC isolation only available with two banks, units with BBS will have one positive and one negative DC output terminal
J	Battery Monitoring	0	No Battery Monitoring
K	Configuration	A	Standard Configuration
L	Starter Cables (Positive and Negative	0 1 2 3	No starter cables 6ft length 10ft length 15ft length Note: Cables include 3/8 lug on rack side, 1/2 lug on starter side. Includes 1 set per bank unless BBS is specified.

Contact SENS or your local sales representative for additional specification, engineering and installation information, or visit SENS' website for latest available data. Specification subject to change without notice.

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STORED ENERGY SYSTEMS

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