

## SBNHH-1D65B

**Multiband Antenna, 698–896 and 2x 1695–2360 MHz, 65° horizontal beamwidth, internal RET. Both high bands share the same electrical tilt.**

- Interleaved dipole technology providing for attractive, low wind load mechanical package

### Electrical Specifications

| Frequency Band, MHz                  | 698–806    | 806–896    | 1695–1880  | 1850–1990  | 1920–2200  | 2300–2360  |
|--------------------------------------|------------|------------|------------|------------|------------|------------|
| Gain, dBi                            | 14.9       | 14.7       | 17.7       | 18.2       | 18.6       | 18.6       |
| Beamwidth, Horizontal, degrees       | 68         | 66         | 69         | 66         | 63         | 58         |
| Beamwidth, Vertical, degrees         | 12.1       | 10.7       | 5.6        | 5.2        | 5.0        | 4.5        |
| Beam Tilt, degrees                   | 0–14       | 0–14       | 0–7        | 0–7        | 0–7        | 0–7        |
| USLS (First Lobe), dB                | 14         | 13         | 15         | 15         | 15         | 13         |
| Front-to-Back Ratio at 180°, dB      | 27         | 29         | 28         | 28         | 28         | 27         |
| Isolation, dB                        | 25         | 25         | 25         | 25         | 25         | 25         |
| Isolation, Intersystem, dB           | 30         | 30         | 30         | 30         | 30         | 30         |
| VSWR   Return Loss, dB               | 1.5   14.0 | 1.5   14.0 | 1.5   14.0 | 1.5   14.0 | 1.5   14.0 | 1.5   14.0 |
| PIM, 3rd Order, 2 x 20 W, dBc        | -153       | -153       | -153       | -153       | -153       | -153       |
| Input Power per Port, maximum, watts | 350        | 350        | 350        | 350        | 350        | 300        |
| Polarization                         | ±45°       | ±45°       | ±45°       | ±45°       | ±45°       | ±45°       |
| Impedance                            | 50 ohm     | 50 ohm     | 50 ohm     | 50 ohm     | 50 ohm     | 50 ohm     |

### Electrical Specifications, BASTA\*

| Frequency Band, MHz                         | 698–806    | 806–896    | 1695–1880 | 1850–1990 | 1920–2200 | 2300–2360 |
|---|------------|------------|-----------|-----------|-----------|-----------|
| Gain by all Beam Tilts, average, dBi        | 14.5       | 14.3       | 17.4      | 17.9      | 18.2      | 18.3      |
| Gain by all Beam Tilts Tolerance, dB        | ±0.5       | ±0.8       | ±0.4      | ±0.3      | ±0.5      | ±0.3      |
| Gain by Beam Tilt, average, dBi             | 0°   14.6  | 0°   14.5  | 0°   17.4 | 0°   17.8 | 0°   18.1 | 0°   18.2 |
|   | 7°   14.6  | 7°   14.4  | 3°   17.5 | 3°   17.9 | 3°   18.3 | 3°   18.4 |
|   | 14°   14.2 | 14°   13.6 | 7°   17.4 | 7°   17.9 | 7°   18.2 | 7°   18.4 |
| Beamwidth, Horizontal Tolerance, degrees    | ±2.2       | ±3.4       | ±2        | ±4.6      | ±5.7      | ±4.3      |
| Beamwidth, Vertical Tolerance, degrees      | ±0.8       | ±1         | ±0.3      | ±0.2      | ±0.3      | ±0.2      |
| USLS, beampeak to 20° above beampeak, dB    | 16         | 14         | 16        | 16        | 16        | 15        |
| Front-to-Back Total Power at 180° ± 30°, dB | 25         | 26         | 27        | 26        | 26        | 26        |
| CPR at Boresight, dB                        | 22         | 23         | 21        | 20        | 20        | 22        |
| CPR at Sector, dB                           | 13         | 11         | 16        | 12        | 11        | 4         |

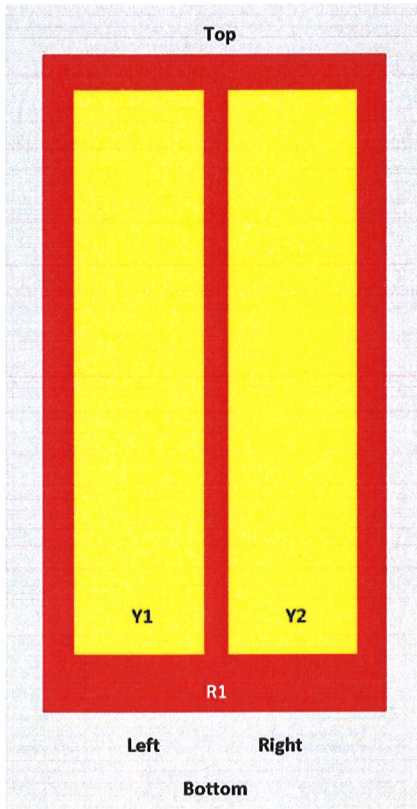
\* CommScope® supports NGMN recommendations on Base Station Antenna Standards (BASTA). To learn more about the benefits of BASTA, [download the whitepaper Time to Raise the Bar on BSAs.](#)

### Array Layout

# Product Specifications

SBNHH-1D65B

**SBNHH 65**



| Array | Freq (MHz) | Combs | RET (MRET) | AISG RET UID          |
|-------|------------|-------|------------|-----------------------|
| R1    | 698-896    | 1-2   | 1          | ARXXXXXXXXXXXXXXXXX.1 |
| Y1    | 1695-2360  | 3-4   | 2          | ARXXXXXXXXXXXXXXXXX.2 |
| Y2    | 1695-2360  | 5-6   |            |                       |

View from the front of the antenna

(Sizes of colored boxes are not true depictions of array sizes)

## General Specifications

|                          |                                 |
|--------------------------|---------------------------------|
| Operating Frequency Band | 1695 – 2360 MHz   698 – 896 MHz |
| Antenna Type             | Sector                          |
| Band                     | Multiband                       |
| Performance Note         | Outdoor usage                   |

## Mechanical Specifications

|                                  |                 |
|----------------------------------|-----------------|
| RF Connector Quantity, total     | 6               |
| RF Connector Quantity, low band  | 2               |
| RF Connector Quantity, high band | 4               |
| RF Connector Interface           | 7-16 DIN Female |
| Color                            | Light gray      |

SBNHH-1D65B

|                       |  |
|-----------------------|--|
| Grounding Type        | RF connector inner conductor and body grounded to reflector and mounting bracket |
| Radiator Material     | Aluminum   Low loss circuit board  |
| Radome Material       | Fiberglass, UV resistant   |
| Reflector Material    | Aluminum   |
| RF Connector Location | Bottom   |
| Wind Loading, frontal | 618.0 N @ 150 km/h<br>138.9 lbf @ 150 km/h                                       |
| Wind Loading, lateral | 197.0 N @ 150 km/h<br>44.3 lbf @ 150 km/h  |
| Wind Loading, rear    | 728.0 N @ 150 km/h<br>163.7 lbf @ 150 km/h                                       |
| Wind Speed, maximum   | 241 km/h   150 mph   |

## Dimensions

|                                  |                     |
|----------------------------------|---------------------|
| Length                           | 1851.0 mm   72.9 in |
| Width                            | 301.0 mm   11.9 in  |
| Depth                            | 180.0 mm   7.1 in   |
| Net Weight, without mounting kit | 18.4 kg   40.6 lb   |

## Remote Electrical Tilt (RET) Information

|   |                                   |
|---|-----------------------------------|
| Input Voltage                                 | 10–30 Vdc                         |
| Internal RET                                  | High band (1)   Low band (1)      |
| Power Consumption, idle state, maximum        | 2.0 W                             |
| Power Consumption, normal conditions, maximum | 13.0 W                            |
| Protocol                                      | 3GPP/AISG 2.0 (Multi-RET)         |
| RET Interface                                 | 8-pin DIN Female   8-pin DIN Male |
| RET Interface, quantity                       | 1 female   1 male                 |

## Packed Dimensions

|                 |                     |
|-----------------|---------------------|
| Length          | 2025.0 mm   79.7 in |
| Width           | 390.0 mm   15.4 in  |
| Depth           | 296.0 mm   11.7 in  |
| Shipping Weight | 31.0 kg   68.3 lb   |

## Regulatory Compliance/Certifications

| Agency                     | Classification   |
|----------------------------|--|
| RoHS 2011/65/EU            | Compliant by Exemption   |
| China RoHS SJ/T 11364-2006 | Above Maximum Concentration Value (MCV)  |
| ISO 9001:2008              | Designed, manufactured and/or distributed under this quality management system |



## Included Products

SBNHH-1D65B

BSAMNT-1 — Wide Profile Antenna Downtilt Mounting Kit for 2.4 - 4.5 in (60 - 115 mm) OD round members. Kit contains one scissor top bracket set and one bottom bracket set.

## \* Footnotes

Performance Note      Severe environmental conditions may degrade optimum performance



# ALCATEL-LUCENT B13 RRH4X30-4R

Alcatel-Lucent B13 Remote Radio Head 4x30-4R is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering.

**Supporting 2Tx/4Tx MIMO and 4-way Rx diversity**, Alcatel-Lucent B13 RRH4x30-4R allows operators to have a compact radio solution to deploy LTE in the 700U band (700 MHz, 3GPP band 13), providing them with the means to achieve high capacity, high quality and high coverage with minimum site requirements.

The Alcatel-Lucent B13 RRH4x30-4R product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x60 W or 4x30 W RF output power. It supports also 4-way Rx diversity and up to 10MHz instantaneous bandwidth.

The Alcatel-Lucent B13 RRH4x30-4R is a near zero-footprint solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

Its compactness and slim design makes the Alcatel-Lucent B13 RRH4x30-4R easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

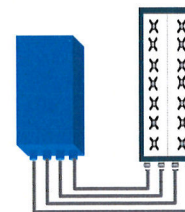


## FEATURES

- Supporting LTE in 700 MHz band (700U, 3GPP band 13)
- LTE 2Tx or 4Tx MIMO (SW switchable)
- Output power: Up to 2x60W or 4x30W
- 10MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports

## BENEFITS

- Compact to reduce additional footprint when adding LTE in 700U band
- MIMO scheme operation selection (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through MIMO4
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall



4x30W with 4T4R  
or  
2x60W with 2T4R

Can be switched between modes via SW w/o site visit

## TECHNICAL SPECIFICATIONS

| Features & performance                     |   |
|--|---|
| <b>Number of TX/RX paths</b>               | 4 duplexed (either 4T4R or 2T4R by SW)  |
| <b>Frequency band</b>                      | U700 (C) (3GPP bands 13):<br>DL: 746 - 756 MHz / UL: 777 - 787 MHz                          |
| <b>Instantaneous bandwidth - #carriers</b> | 10MHz – 1 LTE carrier (in 10MHz occupied bandwidth)   |
| <b>LTE carrier bandwidth</b>               | 10 MHz  |
| <b>RF output power</b>                     | 2x60W or 4x30W (by SW)  |
| <b>Noise figure – RX Diversity scheme</b>  | 2 dB typ. (<2.5 dB max) – 2 or 4 way Rx diversity   |
| <b>Sizes (HxWxD) in mm (in.)</b>           | 550 x 305 x 230 (21.6" x 12.0" x 9") (with solar shield)                                    |
| <b>Volume in L</b>                         | 38 (with solar shield)  |
| <b>Weight in kg (lb) (w/o mounting HW)</b> | 26 (57.2) (with solar shield)   |
| <b>DC voltage range</b>                    | -40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption         |
| <b>DC power consumption</b>                | 550W typical @100% RF load ( in 2Tx or 4Tx mode)  |
| <b>Environmental conditions</b>            | -40°C (-40°F) / +55°C (+131°F)<br>IP65  |
| <b>Wind load (@150km/h or 93mph)</b>       | Frontal:<200N / Lateral :<150N  |
| <b>Antenna ports</b>                       | 4 ports 7/16 DIN female (50 ohms)<br>VSWR < 1.5   |
| <b>CPRI ports</b>                          | 2 CPRI ports (HW ready for Rate7, 9.8 Gbps)<br>SFP single mode dual fiber                   |
| <b>AISG interfaces</b>                     | 1 AISG2.0 output (RS485)<br>Integrated Smart Bias Tees (x2)                                 |
| <b>Misc. Interfaces</b>                    | 4 external alarms (1 connector) – 4 RF Tx & 4 RF Rx monitor ports - 1 DC connector (2 pins) |
| <b>Installation conditions</b>             | Pole and wall mounting  |
| <b>Regulatory compliance</b>               | 3GPP 36.141 / 3GPP 36.113 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27          |

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# ALCATEL-LUCENT B66A RRH4X45

The Alcatel-Lucent B66a Remote Radio Head 4x45 is the newest addition of Remote Radio Head to the extended product line of Alcatel-Lucent's distributed Base Station solutions, aimed at facilitating smooth RF site acquisition and related civil engineering. Its operational range covers beyond that of B4 (AWS) and B10 (AWS+).

**Supporting 2Tx/4Tx MIMO and 2-way/4-way Rx diversity**, the Alcatel-Lucent B66a RRH4x45 allows operators to have a compact radio solution to deploy LTE in the 2100 band (3GPP band 4, 10, and 66), providing them with the means to achieve high capacity, high quality, high reliability, large instantaneous bandwidth, and high coverage with minimum site requirements.

The Alcatel-Lucent B66a RRH4x45 product has four transmit RF paths, offering the possibility to **select, via software only, 2Tx or 4Tx MIMO configurations** with either 2x90W or 4x45W RF output power. It also supports 4-way Rx diversity at the 70 MHz instantaneous bandwidth.



The Alcatel-Lucent B66a RRH4x45 is a compact (near zero-footprint) solution and operates noise free, simplifying negotiations with site property owners and minimizing environmental impacts.

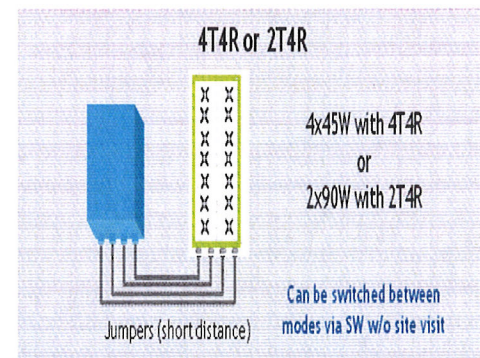
Its compactness and slim design makes the Alcatel-Lucent B66a RRH4x45 easy to install close to the antenna: operators can therefore locate this Remote Radio Head where RF design conditions are deemed ideal, minimizing trade-offs between available sites and RF optimum sites, together with reducing the RF feeder needs and installation costs.

## FEATURES

- Supporting LTE in 2110 - 2180 MHz band/DL, 1710-1780MHz/UL (3GPP band 4, 10, and 66a)
- LTE 2Tx or 4Tx MIMO (SW selectable)
- Configuration: 2T2R/2T4R/4T4R
- Output power: Up to 2x90W or 4x45W (SW configurable)
- 70MHz LTE carrier with 4Rx Diversity
- Convection-cooled (fan-less)
- Supports AISG 2.0 ALD devices (RET, TMA) through RS485 or RF ports

## BENEFITS

- Compact to reduce additional footprint when adding LTE in AWS 1-3 band
- Selection of MIMO configuration (2Tx or 4Tx) by software only
- Improves downlink spectral efficiency through 4Tx MIMO
- Increases LTE coverage thanks to 4Rx diversity capability and best in class Rx sensitivity
- Flexible mounting options: Pole or Wall





## TECHNICAL SPECIFICATIONS

| Features & Performance  |  |
|---|--|
| <b>Number of TX/RX paths</b>  | 4 duplexed (either 4T4R or 2T4R selectable by SW)  |
| <b>Frequency band</b>   | AWS 1-3, B4/B66a<br>DL: 2110-2180 MHz / UL: 1710-1780 MHz  |
| <b>Instantaneous bandwidth - #carriers</b>                                  | 70 MHz – 4 LTE MIMO carriers (in 70 MHz occupied bandwidth)  |
| <b>LTE carrier bandwidth</b>  | 5, 10, 15, 20 MHz  |
| <b>RF output power</b>  | 2x90W or 4x45W (selectable by SW)  |
| <b>Noise figure – RX Diversity scheme<br/>Receiver Sensivity (FRC A1-3)</b> | 2 dB typical (<2.5 dB max) – 2 or 4 way Rx diversity<br>-104.5 dBm maximum   |
| <b>Sizes (HxWxD) in mm (in.)</b>  | 655x299x182 (25.8x11.8x7.2) (with solar shield)<br>640x290x160 (25.2x11.4x6.3) (without solar shield)                    |
| <b>Volume in Liters</b>   | 35.5 (with solar shield)<br>29.7 (without solar shield)  |
| <b>Weight in kg (lb) (w/o mounting HW)</b>                                  | 25.8kg (56.8lb) (with solar shield)  |
| <b>DC voltage range</b>   | Nominal: -48V, -40.5 to -57V at full performance, -38 to -57V with relaxation on power consumption                       |
| <b>DC power consumption</b>   | 750W typical @100% RF load (in 2Tx or 4Tx mode); Add 58W for 2A*29V for AISG   |
| <b>Environmental conditions</b>   | -40°C (-40°F) / +55°C (+131°F)<br>UL50E Type 4 Enclosure   |
| <b>Wind load (@150km/h or 93mph)</b>  | 250N (56lb) Frontal/150N (34lb) Lateral  |
| <b>Antenna ports</b>  | 4 ports 4.3-10 female (50 ohms)<br>VSWR < 1.5  |
| <b>CPRI ports</b>   | 2 CPRI ports (HW ready for Rate 7, 9.8 Gbps)<br>SFP: SMDF (HW supports also SMSF and MMDF)                               |
| <b>AISG interfaces</b>  | 1 AISG 2.0 output (RS485)<br>Integrated Smart Bias Tees (x2)   |
| <b>Misc. Interfaces</b>   | 4 external alarms (1 connector)<br>1 DC connector (2 pins)   |
| <b>Installation conditions</b>  | Pole and wall mounting   |
| <b>Regulatory compliance</b>  | 3GPP 36.141 / 3GPP 36.113 / GR-487 / GR-1089-CORE / GR-3108-CORE / UL 60950-1 / FCC Part 27 / FCC Part 15 / GR-3178-CORE |

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# SDC20 | 2.5L | 20 kW - AC

## INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

### Standby Power Rating

20 kW AC, 60 Hz

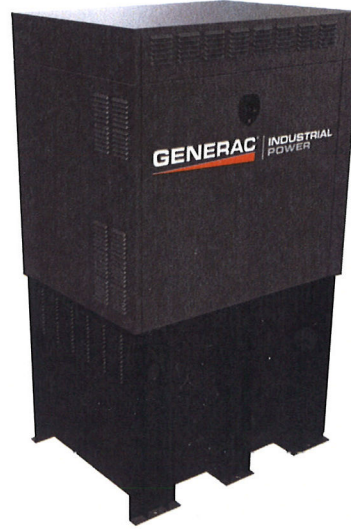


Image used for illustration purposes only



\*Built in the USA using domestic and foreign parts

## Codes and Standards

Generac products are designed to the following standards:



UL2200, UL508, UL142, UL489



NFPA 37, 70, 99, 110



NEC700, 701, 702, 708



ISO 3046, 7637, 8528, 9001



NEMA ICS10, MG1, 250, ICS6, AB1



ANSI C62.41

## Powering Ahead

For over 50 years, Generac has provided innovative design and superior manufacturing.

Generac ensures superior quality by designing and manufacturing most of its generator components, including alternators, enclosures and base tanks, control systems and communications software.

Generac gensets utilize a wide variety of options, configurations and arrangements, allowing us to meet the standby power needs of practically every application.

Generac searched globally to ensure the most reliable engines power our generators. We choose only engines that have already been proven in heavy-duty industrial applications under adverse conditions.

Generac is committed to ensuring our customers' service support continues after their generator purchase.

**STANDARD OPTIONS****ENGINE SYSTEM**

- Oil Drain Extension
- Air Cleaner with Service Indicator
- Fan Guard
- Stainless Steel Flexible Exhaust Connection
- Exhaust Silencer with Drain
- Factory Filled Oil & Coolant

**Fuel System**

- Primary Fuel Filter

**Cooling System**

- 120V AC Coolant Heater
- Closed Coolant Recovery System
- UV/Ozone Resistant Hoses
- Factory-Installed Radiator
- 50/50 Ethylene Glycol Antifreeze
- Radiator Drain Extension

**Electrical System**

- Battery Charging Alternator
- AGM Spill Proof Battery
- Battery Cables
- Rubber-Booted Engine Electrical Connections
- Solenoid Activated Starter Motor

**ALTERNATOR SYSTEM**

- Class H Insulation Material
- Vented Rotor
- 2/3 Pitch
- Skewed Stator
- Auxiliary Voltage Regulator Power Winding
- Amortisseur Winding
- Brushless Excitation
- Sealed Bearings
- Automated Manufacturing (Winding, Insertion, Lacing and Varnishing)
- Rotor Dynamically Spin Balanced
- Full Load Capacity Alternator
- Protective Thermal Switch

**GENERATOR SET**

- Single-Side Service
- Internal Genset Puck Style Vibration Isolators
- Separation of Circuits- High/Low Voltage
- Silencer Heat Shield
- High Heat Wrapped Exhaust Piping
- Silencer Enclosed Within Generator
- 5 Year Extended Warranty
- Extended Factory Testing
- 12 Gallon System Spill Containment
- 2.5 Gallon Fuel Fill Spill Containment

**ENCLOSURE**

- Serviceable Items Accessible Through Single Lift-Off Side Door
- High Performance Sound-Absorbing Material
- Gasketed Door
- Stamped Air-Intake Louvers
- Single Door Latch Lockable with Key & Padlock
- Rhino Coat™ - Textured Polyester Powder Coat
- 150 MPH Wind Rating
- 36" Snow Rating
- 4 Point Lift System

**FUEL TANK**

- UL 142 Compliant
- Double Wall Construction
- Thermal Valve (Fusible Link)
- Factory Pressure Tested (5 psi)
- Rupture Basin Alarm
- Fuel Level Gauge and Sender
- Check Valve in Supply Line
- Fire Rated Hose
- Rhino Coat™ - Textured Polyester Powder Coat
- Stainless Steel Hardware
- Integrated Fork Pockets

**CONTROL SYSTEM**

- Digital H Control Panel - Dual 4x20 Display
- Programmable Crank Limiter
- 7-Day Programmable Exerciser
- Special Applications Programmable PLC
- RS-232/485
- All-Phase Sensing DVR
- Full System Status
- Utility Monitoring
- 2-Wire Start Compatible
- Power Output (kW)
- Power Factor
- kW Hours, Total & Last Run
- Real/Reactive/Apparent Power
- All Phase AC Voltage
- All Phase Currents
- Oil Pressure
- Coolant Temperature
- Coolant Level
- Engine Speed

- Battery Voltage
- Frequency
- Date/Time Fault History (Event Log)
- Isochronous Governor Control
- Waterproof/Sealed Connectors
- Audible Alarms and Shutdowns
- Not in Auto (Flashing Light)
- Auto/Off/Manual Switch
- E-Stop (Red Mushroom-Type)
- NFPA110 Level I and II (Programmable)
- Customizable Alarms, Warnings, and Events
- Modbus protocol
- Predictive Maintenance Algorithm
- Sealed Boards
- Password Parameter Adjustment Protection
- Single Point Ground
- 15 Channel Data Logging
- 0.2 msec High Speed Data Logging
- Alarm Information Automatically Comes Up On the Display

**Alarms**

- Generator Run- Dry Contact
- Major Alarm- Dry Contact
- Minor Alarm- Dry Contact
- Low Fuel Alarm- Dry Contact
- Generator Fluid Spill Alarm- Dry Contact
- Alarms & Warnings Time and Date Stamped
- Alarms & Warnings for Transient and Steady State Conditions
- Snap Shots of Key Operation Parameters During Alarms & Warnings
- Alarms and Warnings Spelled Out (No Alarm Codes)

**MODEL OPTIONS****CONTROL SYSTEM**

- 21 Light Annunciator- Shipped Loose Kit and Field Installed
- External E-Stop-Shipped Loose Kit and Field Installed

**ENCLOSURE**

- Aluminum Enclosure
- Extreme Cold Weather Kit (-40°C)- Shipped Loose Kit and Field Installed

**TANKS**

- MDEQ 5 Gallon Fuel Spill Box with 90% Fill Alarm- Shipped Loose Kit and Field Installed
- MDEQ Fuel Vent- Shipped Loose Kit and Field Installed

# SDC20 | 2.5L | 20 kW - AC

## INDUSTRIAL DIESEL GENERATOR SET

EPA Certified Stationary Emergency

### APPLICATION AND ENGINEERING DATA

#### ENGINE SPECIFICATIONS

##### General

|                          |                     |
|--------------------------|---------------------|
| Make                     | Mitsubishi          |
| EPA Emissions Compliance | Interim Tier 4      |
| Cylinder #               | 4                   |
| Type                     | In-Line             |
| Displacement - L (Cu In) | 2.5 (158)           |
| Bore - mm (in)           | 88 (3.5)            |
| Stroke - mm (in)         | 103 (4.1)           |
| Compression Ratio        | 22:1                |
| Intake Air Method        | Naturally Aspirated |

##### Engine Governing

|                                     |                        |
|-------------------------------------|------------------------|
| Governor                            | Electronic Isochronous |
| Frequency Regulation (Steady State) | ± 0.25%                |

##### Lubrication System

|                              |                            |
|------------------------------|----------------------------|
| Oil Pump Type                | Trochoid Gear Pump         |
| Oil Filter Type              | Filtering Paper, Full Flow |
| Crankcase Capacity - L (qts) | 6.5 (6.9)                  |

##### Cooling System

|                                 |                    |
|---------------------------------|--------------------|
| Cooling System Type             | Forced Circulation |
| Water Pump Type                 | Centrifugal Pump   |
| Fan Type                        | Pusher             |
| Fan Speed (rpm)                 | 2376               |
| Fan Diameter - mm (in)          | 380 (15)           |
| Coolant Heater Wattage          | 1000               |
| Coolant Heater Standard Voltage | 120                |

##### Fuel System

|                             |                            |
|-----------------------------|----------------------------|
| Fuel Type                   | Ultra Low Sulfur Diesel #2 |
| Fuel Specifications         | ASTM                       |
| Fuel Filtering (microns)    | 6                          |
| Fuel Inject Pump Make       | Bosch                      |
| Injector Type               | Engine Driven Gear         |
| Engine Type                 | Diesel                     |
| Fuel Supply Line - mm (in.) | 6.6 (0.26)                 |

##### Engine Electrical System

|                            |          |
|----------------------------|----------|
| System Voltage             | 12 VDC   |
| Battery Charger Alternator | 12V-50A  |
| Battery Size               | 650 CCA  |
| Battery Group              | 35       |
| Battery Voltage            | 12 VDC   |
| Ground Polarity            | Negative |

#### ALTERNATOR SPECIFICATIONS

|                                     |                       |
|-------------------------------------|-----------------------|
| Standard Model                      | Mecc Alte ECP 28-2L/4 |
| Poles                               | 4                     |
| Field Type                          | Revolving             |
| Insulation Class - Rotor            | H                     |
| Insulation Class - Stator           | H                     |
| Total Harmonic Distortion           | <5%                   |
| Telephone Interference Factor (TIF) | <45                   |
| Standard Excitation                 | Brushless             |

|                                    |              |
|------------------------------------|--------------|
| Bearings                           | Dual Sealed  |
| Coupling                           | Belt, Pulley |
| Load Capacity - Standby            | 100%         |
| Prototype Short Circuit Test       | Yes          |
| Voltage Regulator Type             | Digital      |
| Number of Sensed Phases            | All          |
| Regulation Accuracy (Steady State) | ± 1.0%       |

#### RATING DEFINITIONS

Standby - Applicable for a varying emergency load for the duration of a utility power outage with no overload capability.



# SDC20 | 2.5L | 20 kW - AC

## INDUSTRIAL DC DIESEL GENERATOR SET

EPA Certified Stationary Emergency



### OPERATING DATA

#### POWER RATINGS

|  |                |          |
|--|----------------|----------|
| Single-Phase 120/240 VAC @1.0pf<br>Circuit Breaker | 20 kW*<br>100A | Amps: 83 |
|--|----------------|----------|

\*18 kW output until 50 hour break-in complete

#### FUEL CONSUMPTION RATES\*

| Diesel - gph (lph) |             |
|--------------------|-------------|
| Percent Load       | Standby     |
| 50%                | 1.02 (3.78) |
| 75%                | 1.37 (5.18) |
| 100%               | 1.81 (6.85) |

\* Fuel supply installation must accommodate fuel consumption rates at 100% load.

#### COOLING

|  |                           | Standby    |
|--|---------------------------|------------|
| Coolant Flow per Minute                            | gpm (lpm)                 | 15.9 (60)  |
| Coolant System Capacity                            | gal (L)                   | 6 (22.7)   |
| Heat Rejection to Coolant                          | BTU/hr                    | 238,200    |
| Inlet Air  | cfm (m <sup>3</sup> /min) | 67.1 (1.9) |
| Max. Operating Ambient Temperature (Before Derate) | °F (°C)                   | 104° (40°) |
| Maximum Radiator Backpressure                      | in H <sub>2</sub> O       | 0.50       |

#### COMBUSTION AIR REQUIREMENTS

|   | Standby   |
|---|-----------|
| Flow at Rated Power cfm (m <sup>3</sup> /min) | 88 (2.49) |

#### ENGINE

#### EXHAUST

|                          |        | Standby |
|--------------------------|--------|---------|
| Rated Engine Speed       | rpm    | 1800    |
| Horsepower at Rated kW** | hp     | 33.5    |
| Piston Speed             | ft/min | 1220.47 |
| BMEP                     | psi    | 96.5    |

|   |                           | Standby     |
|---|---------------------------|-------------|
| Exhaust Flow (Rated Output)                 | cfm (m <sup>3</sup> /min) | 193 (328)   |
| Max. Backpressure (Post Silencer)           | inHg (kPa)                | 1.96 (6.67) |
| Exhaust Temp (Rated Output - Post Silencer) | °F (°C)                   | 928 (497.7) |

\*\* Refer to "Emissions Data Sheet" for maximum bHP for EPA and SCAQMD permitting purposes.

Deration – Operational characteristics consider maximum ambient conditions. Derate factors may apply under atypical site conditions.

Please consult a Generac Power Systems Industrial Dealer for additional details. All performance ratings in accordance with ISO3046, BS5514, ISO8528 and DIN6271 standards.