



Cummins Power Hour Introducing the Integrated ATS

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Cummins Confidential

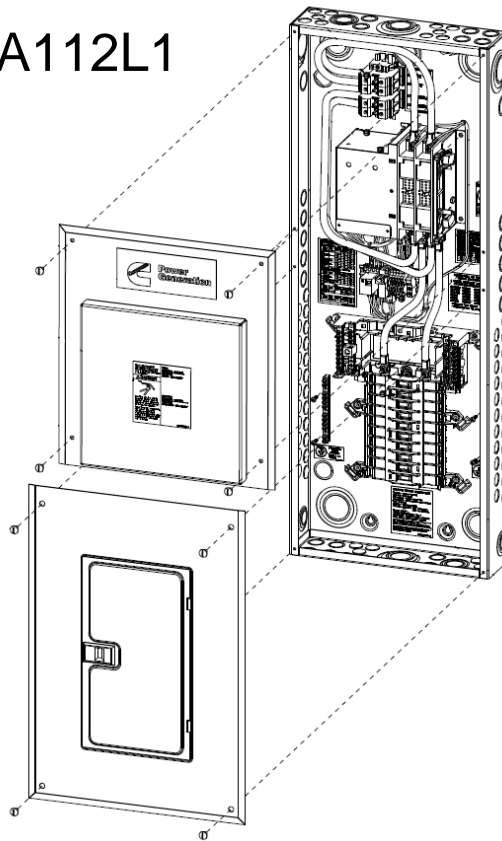
Agenda

- Integrated RA series Transfer Switch
 - Features
 - Application
- Load Management Kit for Cummins Air-cooled Generators
- Remote Monitoring



New Sub-Panel Product – Integrated 100A Automatic Transfer Switch

- A051C991 - RA112L1



Integrated RA series Transfer Switch

■ Features

- Mechanically interlocked contactor
 - Long-life, high pressure, silver alloy contact resists burning and pitting
 - A powerful and economical solenoid drives the mechanism
- Neutral and ground bar
 - Fully rated
 - Silver plated copper ground and neutral bus
- Ease of installation
 - Solderless screw type terminals for external power connections
 - Mount flush between wall studs or on wall surface
- Integrated branch circuit breaker panel
 - 20 spaces, allows 24 circuits with 4 tandem breakers
 - Square D, QO series breaker compatible





Integrated ATS - Key Functional Features

- Feature – Integrated ATS and Load Center
 - Reduced wiring and installation time (2 hour savings)
 - No need to contact utility company to remove their meter
 - Reduced wall space (two devices in one)

- Feature – 100A, 24 Circuit UL listed device
 - Large enough for the full output of a 24KW generator
 - Uses readily available & affordable SquareD, QO series breakers
 - Capable of handling all circuits in many homes
 - Eliminates need for load shedding since connected loads can be matched to generator capacity.



Integrated ATS - Key Functional Features

- Feature – Easy Installation Enclosure
 - Flush or surface mountable - Fits between 16” stud spacing for clean, finished look
 - Multiple knockouts. Easy to wire from all sides
 - Mounting weight - 40 lbs. vs competition's 64 lbs.



Enclosures

Wire bend space complies with 2017 NEC.

Dimensions - transfer switch in UL type 1 enclosure

Model and Amp rating	Height		Width		Depth		Weight		Outline drawing
	in	Mm	in	mm	in	mm	lb	kg	
100 A	38.0	965	14.25	342	4	102	40	18.1	A051C991

Transfer switch lug capacities

Model and Amp rating	Size
100A	#6 AWG to 2/0 CU/AL



Cummins Generator Model Compatibility

RS20A/C20N6H*	RX30/C30N6H
RS17A/C17N6H*	C35D6
RS13A/C13N6H*	RS36/C36N6
C10D6	RX36/C36N6H
C15D6	C40D6
C20D6	RS40/C40N6
C20N6	RX40/C40N6H
RS22/C22N6	RX45/C45N6H
C25D6	RX50/C50N6H
RS25/C25N6	RX60/C60N6H
C30D6	
RS30/C30N6	

*Requires TB4 Jumper



Deciding on a Home Electrical Service



New Construction



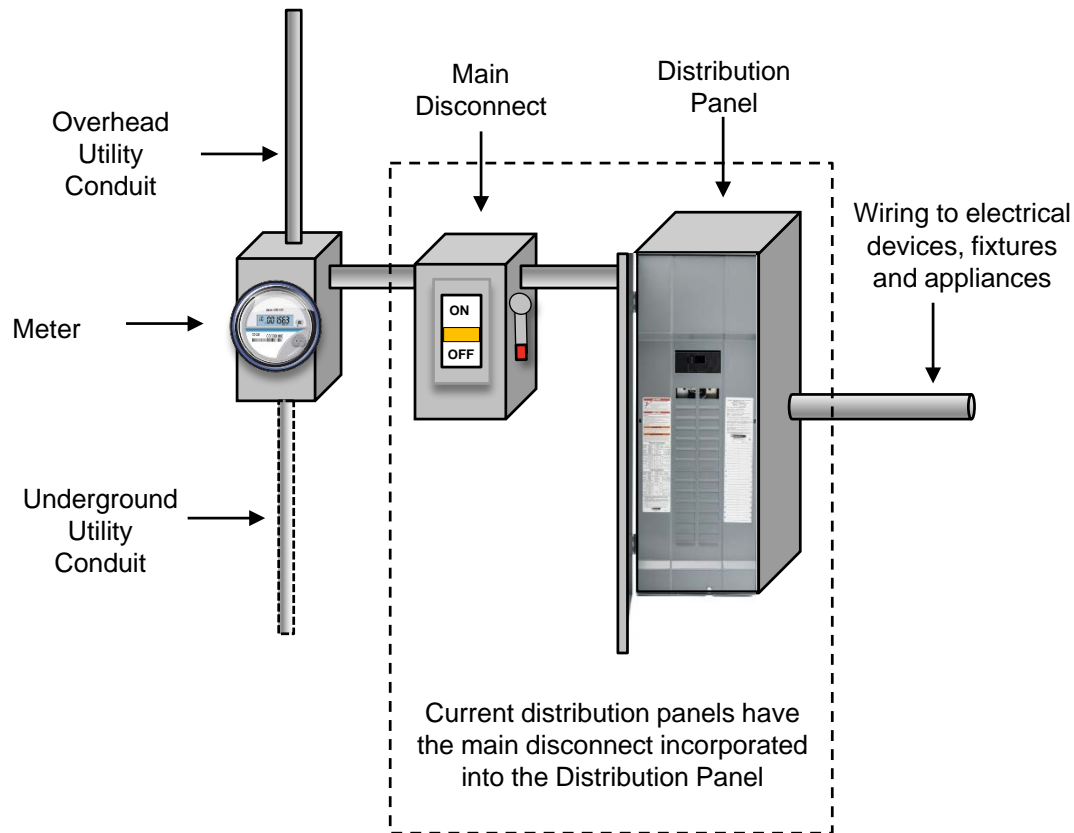
Existing Home



Extensive remodels requiring
electrical upgrades



Basic Home Electrical Service

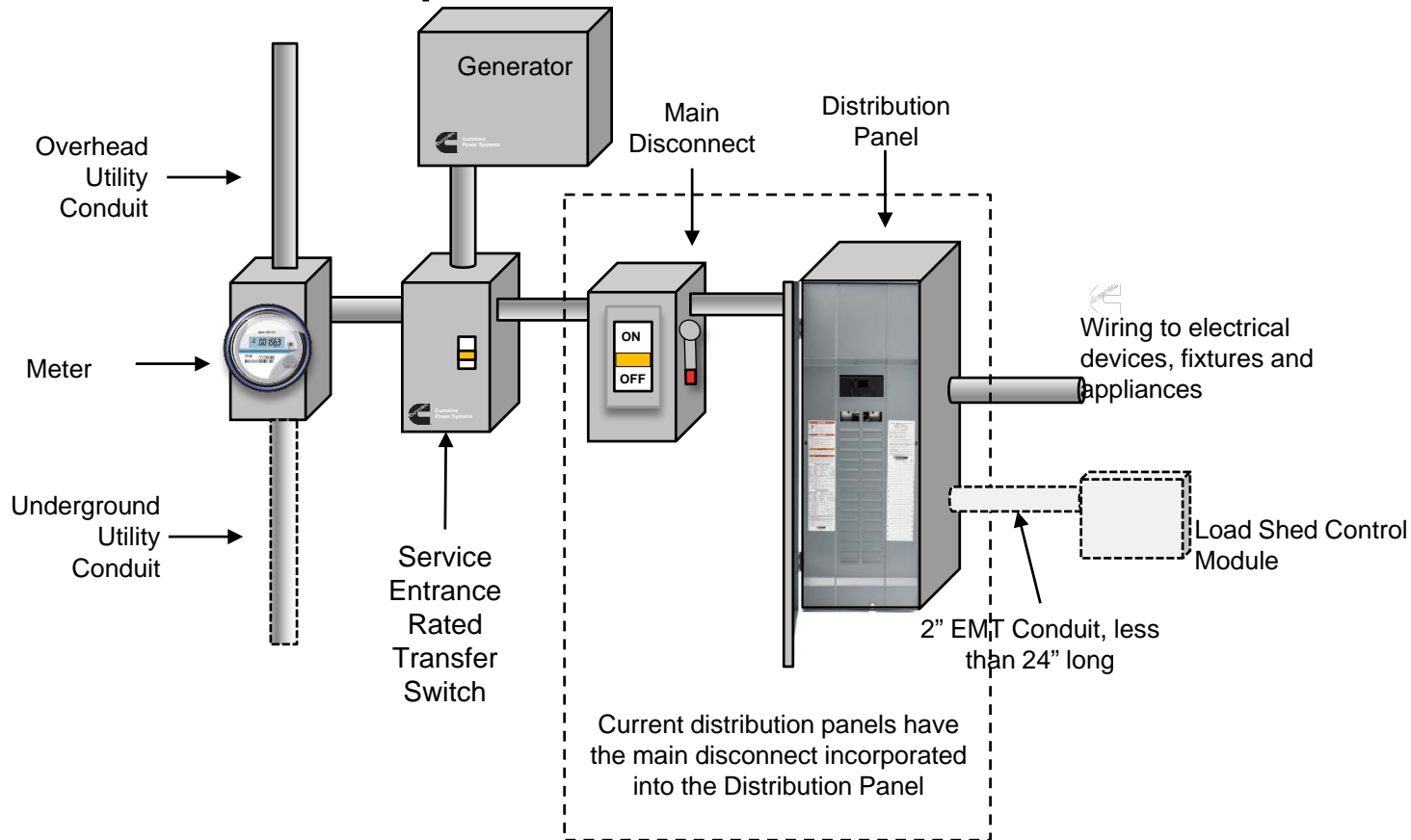


Standby Generator Installation Types

- Two types of generator set installations:
 - Whole house panel back up, e.g. using RA100/200
 - Sub-panel backup fed from Main Panel



Adding a Standby Generator with Whole House Backup



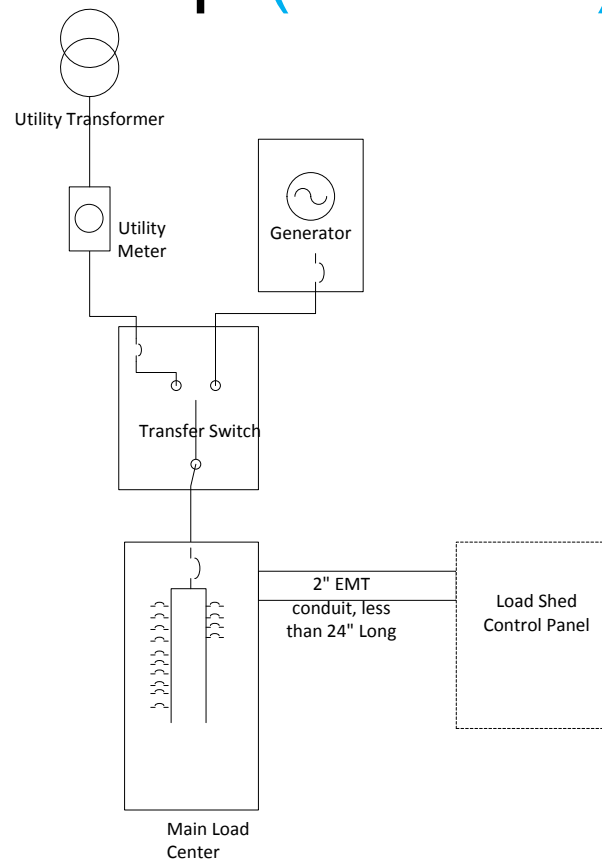
Whole House Panel Backup (SE ATS)

■ Pros

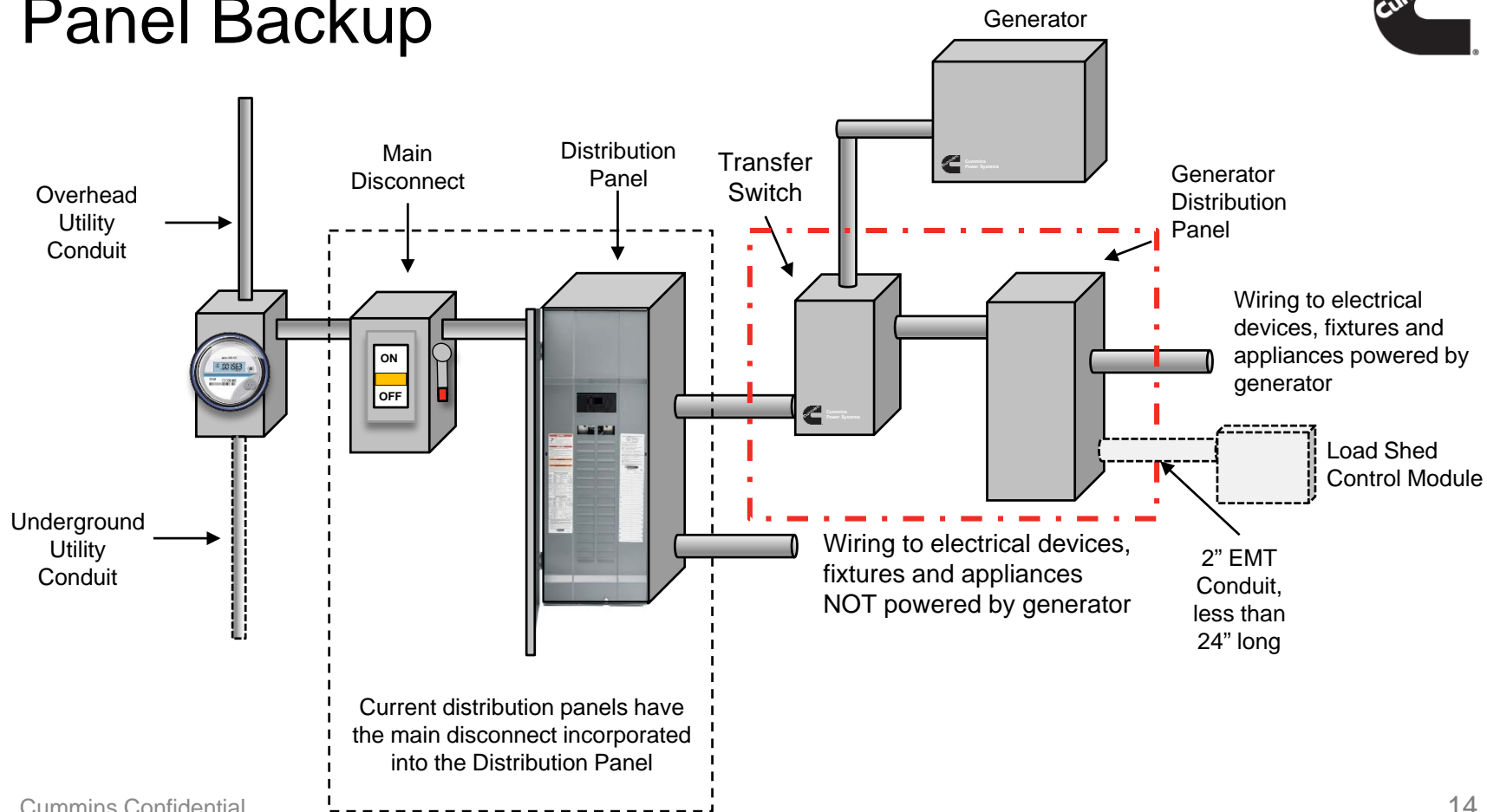
- All loads are backed up
- Can be used in new construction or remodel

■ Cons

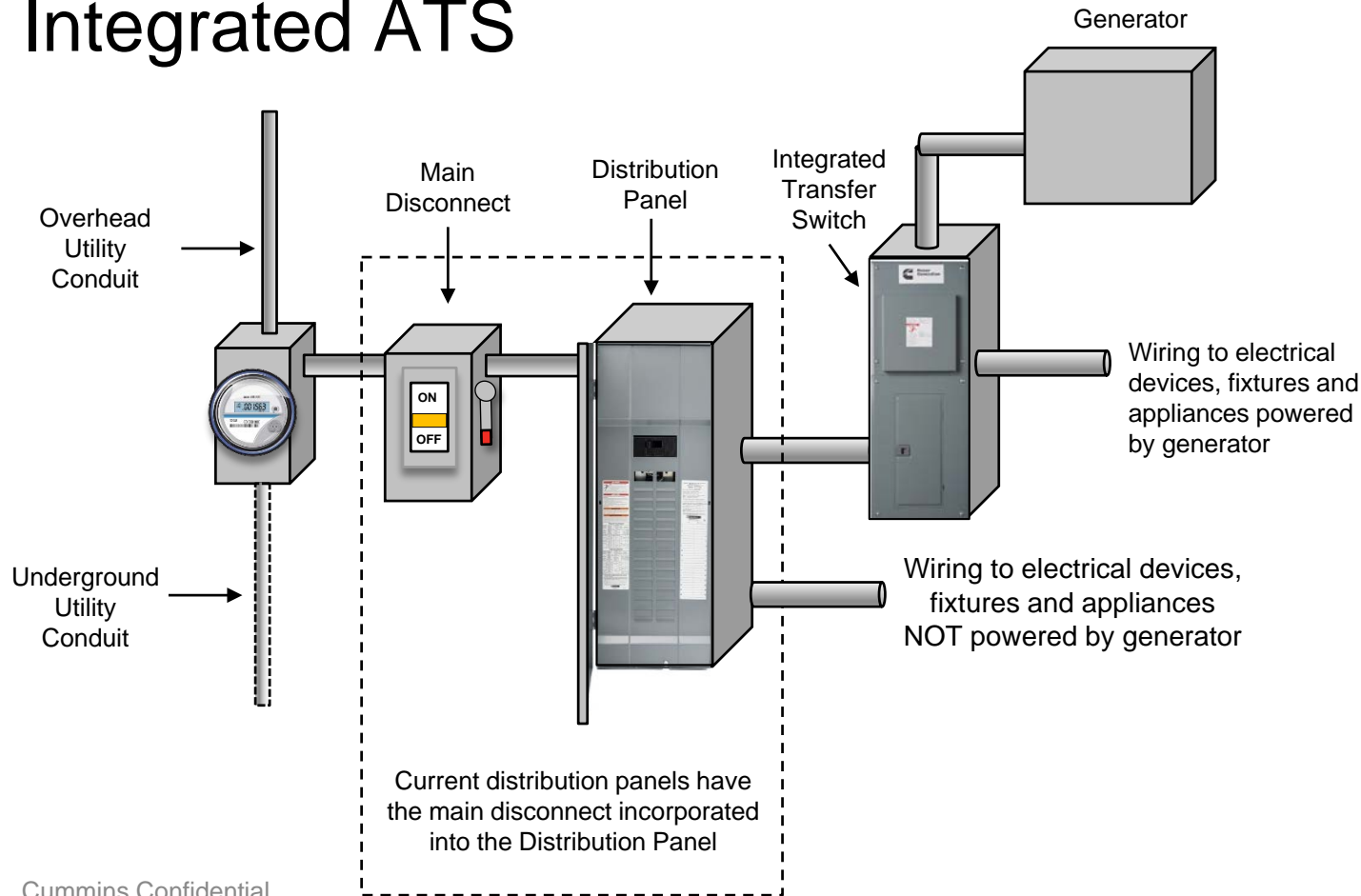
- 9 hours to install
 - ATS, 7 hour install
 - Load Shed, 2 hour install
- Must remove the meter



Adding a Standby Generator with Sub-Panel Backup



Adding a Standby Generator with Integrated ATS



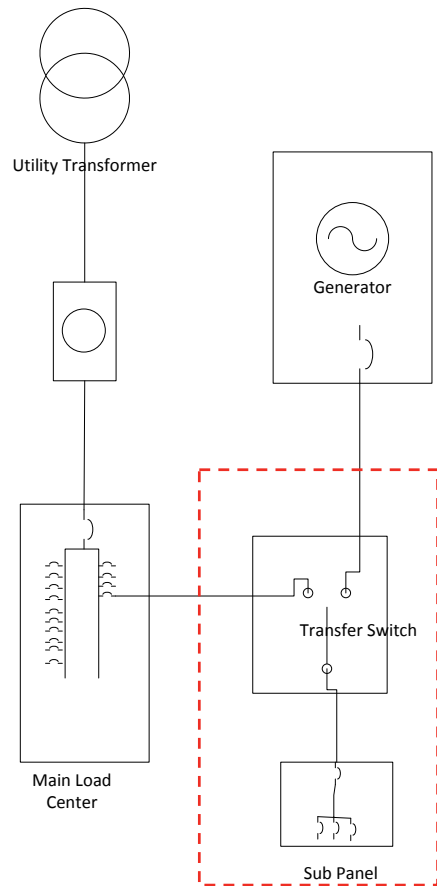
Sub Panel Backup (non SE ATS + sub panel or iATS)

■ Pros

- No need to remove the meter
- No need to change the electric service
- ATS and Sub-Panel Load center, 5 hour install
- **Integrated ATS/Load center, 3 hour install**
- All-in-one solution reduces number of components to buy, install, and wire. smaller foot print, faster to install

■ Cons

- Only specific circuits are backed up
- Homeowner must choose which circuits to back up
- Limited number circuits, 20-24





Spec Sheet Location – Channel One Portal

<https://channelone.cummins.com>

The screenshot displays the Cummins Channel One Portal interface. At the top, there is a black header with the 'CHANNEL' logo and navigation links for 'HI, KL150', 'MY ACCOUNT', 'SITE HELP', and 'OTHER CUMMINS SITES'. Below this is a red navigation bar with the Cummins logo and links for 'My Channel One', 'Product And Sales', 'Service', 'Training', 'Marketing', and 'Remote Monitoring'. The main content area shows a breadcrumb trail: 'Home » Product Information » Transfer Switches(ATS)'. On the left, a sidebar menu is expanded to 'Transfer Switches(ATS)', showing sub-links for 'RA Models', 'RSS Models', and 'OTEC Models'. The 'RA Models' section is active, displaying a list of models: 'RA 100', 'RA 200', 'RA 100 SE', 'RA 200 SE', 'RA 400 NSE', and 'RA 400 SE'. The 'Integrated RA 100' model is highlighted with a red background. Below the list, the details for the 'Integrated RA 100' are shown: 'Model: Integrated RA 100' and 'Power Rating: 100 Ampere'. A link for 'Spec Sheet' is available in 'ENG'.

CHANNEL

HI, KL150 MY ACCOUNT SITE HELP OTHER CUMMINS SITES

Cummins

My Channel One Product And Sales Service Training Marketing Remote Monitoring

Home » Product Information » Transfer Switches(ATS)

Product Information

- Generators(Gensets)
- Transfer Switches(ATS)
 - RA Models
 - RSS Models
 - OTEC Models

Product Pricing

GenSizing Tool

Leads, Quotes, and Orders

RA Models

- RA 100
- RA 200
- RA 100 SE
- RA 200 SE
- RA 400 NSE
- RA 400 SE

Integrated RA 100

Model: Integrated RA 100

Power Rating: 100 Ampere

Spec Sheet [ENG](#)

Specification Sheet NAS-6287

RA112L1 | 2



Integrated RA series Transfer Switch

The integrated version of the RA series includes 20 spaces for breakers and a transfer switch in one enclosure. These products are Listed to UL 67 and CSA C22.2 No.29, and are UL1008 compliant. The switch assembly and generator set combination are specifically designed for a simplified, quicker installation.

This UL/CSA switch is suitable for standby power systems in residential and light commercial applications. This product adheres to National Electrical Code (NEC) and National Fire Protection Association (NFPA) requirements.

This switch monitors utility power 24 hours a day and 7 days a week. When utility power becomes unsatisfactory or fails, the generator set is signaled to start, then automatically transfers the load. When stable utility voltage returns, the transfer switch will automatically switch electrical load from the generator to the utility. No action is required by the home owner.

Features

Mechanically interlocked contactor

- Long life, high pressure, silver alloy contacts resists burning and pitting
- A powerful and economical solenoid powers the mechanism

Neutral and ground bar

- Fully rated
- Silver plated copper ground and neutral

Ease of installation

- Solderless screw type terminals for easy power connections
- Mount flush between wall studs or on surface

Integrated branch circuit breaker panel

- 20 spaces, allows 24 circuits with 4 line breakers
- Square D, QO series breaker compatible

Transfer switch mechanism



- A powerful and economical solenoid powers RA Transfer Switches.
- Independent break-before-make action is common for 2-pole.
- Mechanical interlock prevents simultaneous closing of normal and emergency contacts.
- Electrical interlocks prevent simultaneous closing signals to normal and emergency contacts and interconnection of normal and emergency sources through the control wiring.
- Long-life, high pressure, silver alloy contacts resist burning and pitting. Contacts are mechanically held in both normal and emergency positions for reliable, quiet operation.

Specifications

Voltage rating	Transfer switches up to 240 VAC, 50 Hz or 60 Hz.
Amperage rating	100A continuous amperes.
Arc interruption	Multiple leaf arc chutes cool and quench the arcs. Barriers prevent interphase flashover.
Neutral bar	A full current-rated neutral bar is standard.
Auxiliary contacts	Two contacts rated at 5A continuous at 100 VAC or 2.5A continuous at 200 VAC (one for each source) are provided for customer use.
Operating temperature	-20° C (-4° F) to 60° C (140° F)
Load center	20 spaces, 24 circuit. Compatible with Square D QO branch circuit breakers
Storage temperature	-30° C (-22° F) to 70° C (158° F)
Humidity	5-95% non-condensing
Altitude	Up to 2,000 m (6,561 ft.) without derating
Total transfer time (source-to-source)	Will not exceed 100 msecs with normal voltage applied to the actuator.
Manual operation handles	Transfer switches are equipped with a removable operating handle which allows operation during servicing in order to facilitate troubleshooting with sources of power disconnected

NAS-6287-EN/NA01/7N269 (03/17)

RA112L1 | 3

UL/CSA withstand and closing ratings

Transfer switch ampere	Coordinated molded case breakers
100A	10,000 A

Enclosures

Wire bend space complies with 2017 NEC.

Dimensions - transfer switch in UL type 1 enclosure

Model and Amp rating	Height		Width		Depth		Weight		Outline drawing
	in	mm	in	mm	in	mm	lb	kg	
100 A	38.0	965	14.25	342	4	102	40	18.1	A051C091

Transfer switch lug capacities

Model and Amp rating	Size
100A	#6 AWG to 2/0 CU/AL

Submittal details

Description	Part #	Rating	Voltage	Enclosure
RA112L1	A051C091	100 A	120/240 V 1 phase	UL type 1

Certifications



UL 67 Listed and UL 1008 compliant. Rated cabinets and UL Listed CU-AL terminals.



All switches comply with NEMA ICS 10.



All switches comply with NFPA 70.



All switches comply with CSA 22.2 No.29

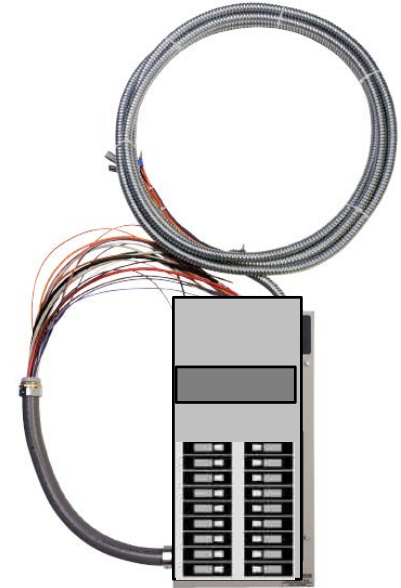
NAS-6287-EN/NA01/7N269 (03/17)

Competition

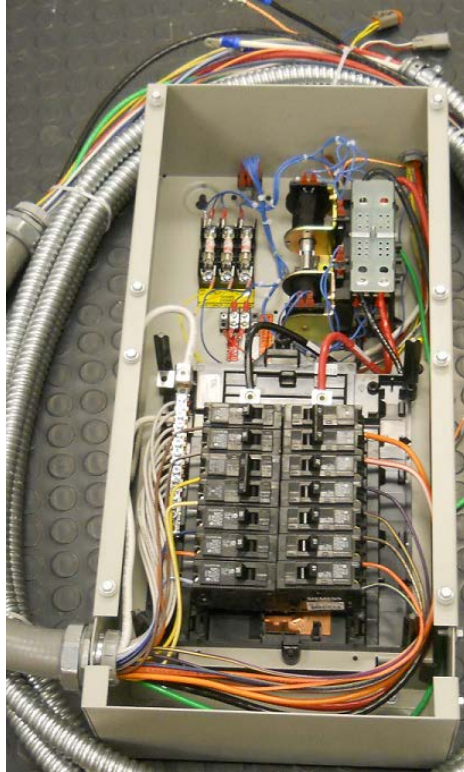
- Generac has the Essential Circuit switches
 - Pre-wired ATS with built-in load center
 - Split bus type
 - Both switches combine the ATS and the load center in one box. Eliminating the stand alone transfer switch.
- Kohler offers a transfer switch with load center
 - 100A model has 24 circuit capacity
 - 200A has both 24 breaker and 42 breaker capacity

Pre-installed Subpanel Type

- Come with breakers installed and with set sizes
- The 30' whip also has the control wires for the transfer switch
- These wires are terminated in plug connector for use with the generator
- Because of the connector the 30' whip cannot be easily shortened or extended.



Pre-wired ATS with Built-in Load Center



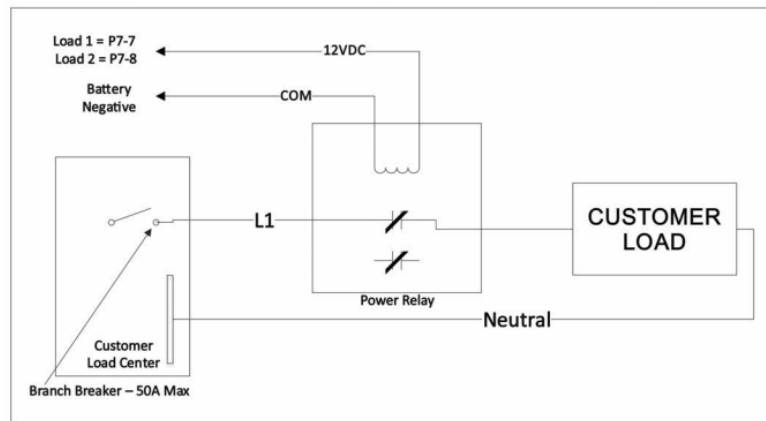
Load Management Kit for Air Cooled RS13A and RS20A





Load Management Kit for Air Cooled RS13A, RS17A and RS20A | pn. A051C329

- Control up to two 50A loads
- Compatible with Cummins Power Generation RS13A/AC, RS17A and RS20A/AC
- Closed contactors which means no sound from the box
- Disconnected loads will be reconnected when generator set capacity is available



INTERCONNECTION DIAGRAM (120 VAC) (MODELS GSBA/GSBB/GSBC)

Features & Specifications

- UL Listed
- Number of Relays per modules – 2x2 pole (normally closed)
- Load amps – 50A Load voltage – 120VAC or 240VAC
- Coil voltage – 12VDC
- Mechanical lugs, #14 #4 AWG copper or aluminum range
- Box - Steel, painted ANSI light gray
Rated – NEMA 1 (indoor use)
- Mounting – Surface or flush



CONTACTOR BOX

Remote Monitoring

Cummins Connect Cloud™



Customer Mobile App



- Available on Apple & Android
 - “Cummins Connect Cloud”
- Connect via Ethernet RJ45 wire from generator set control to router

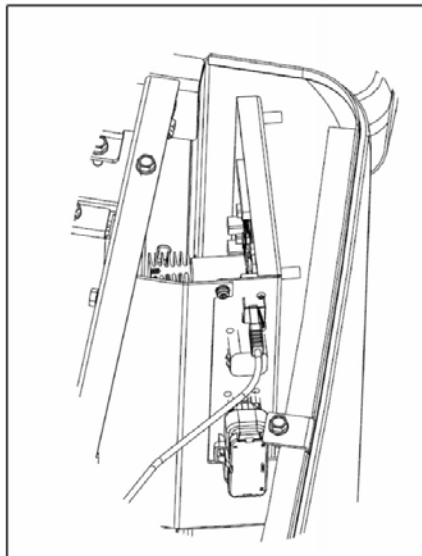
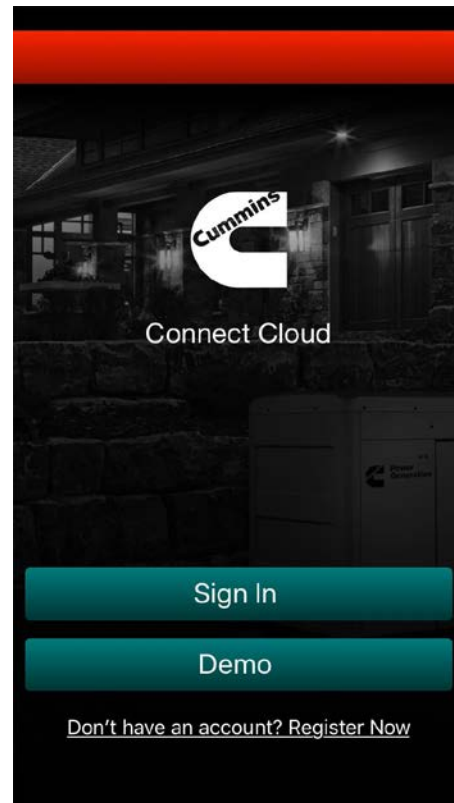
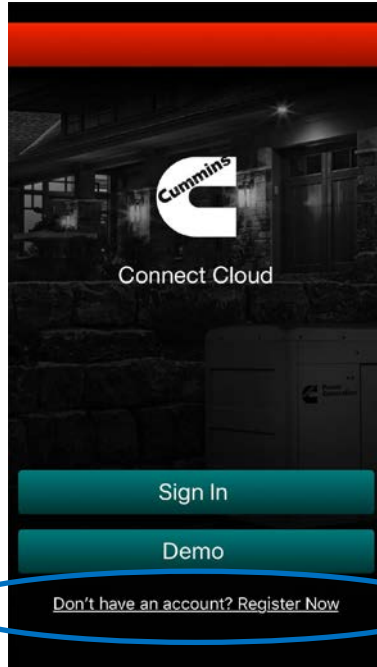


FIGURE 33. ETHERNET PORT ON GENERATOR CONTROL



Customer Mobile App

- Registering



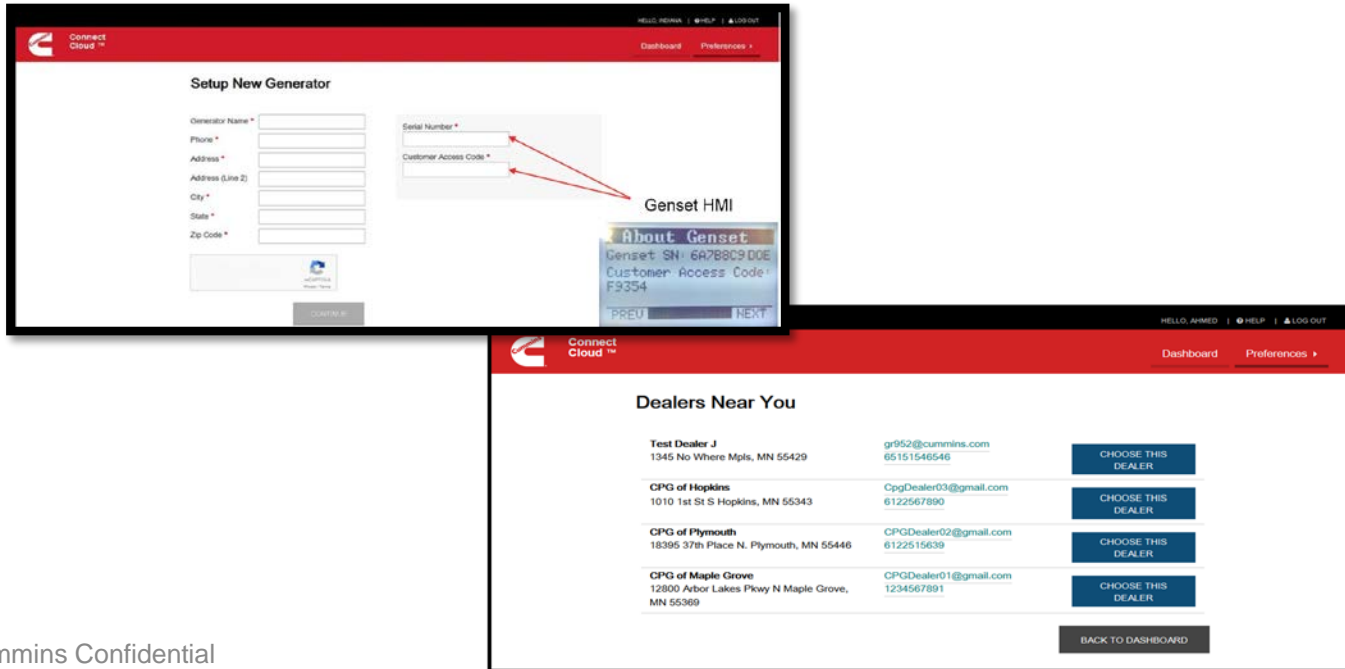
Step 1: Terms of Service
legal stuff

Step 2: Create Account
email address & password

Step 3: Setup Generator

Customer Mobile App

■ Setup Generator



The image shows two screenshots from the Connect Cloud web application. The top screenshot is the 'Setup New Generator' form, which includes fields for Generator Name, Phone, Address (Line 1 and 2), City, State, and Zip Code. It also has a section for Serial Number and Customer Access Code, with red arrows pointing to a 'Genset HMI' screen showing 'About Genset' information. The bottom screenshot shows the 'Dealers Near You' section, listing four dealers with their contact information and a 'CHOOSE THIS DEALER' button for each.

Setup New Generator

Generator Name *
 Phone *
 Address *
 Address (Line 2)
 City *
 State *
 Zip Code *

Serial Number *
 Customer Access Code *

Genset HMI

About Genset
 Genset SN: 6A7B8C9D0E
 Customer Access Code: F9354
 PREVIOUS NEXT

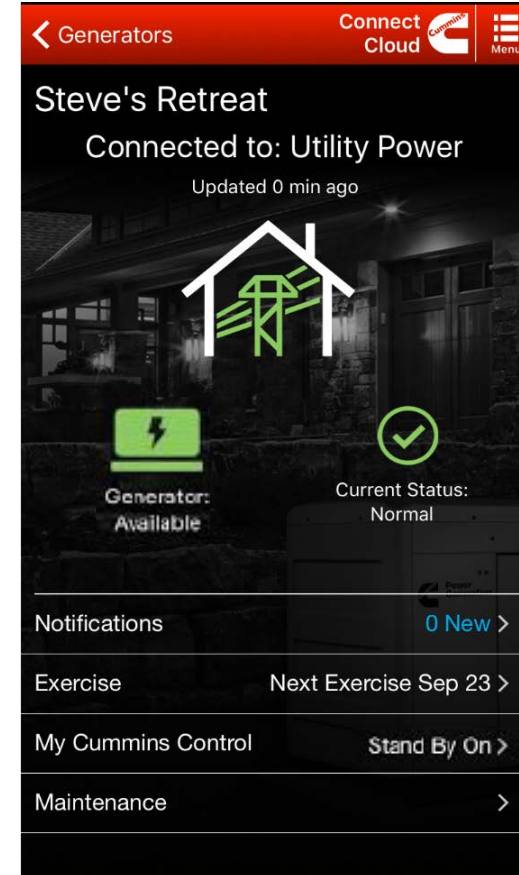
Dealers Near You

Test Dealer J 1345 No Where Mpls, MN 55429	gr952@cummins.com 65151546546	CHOOSE THIS DEALER
CPG of Hopkins 1010 1st St S Hopkins, MN 55343	CpgDealer03@gmail.com 6122567890	CHOOSE THIS DEALER
CPG of Plymouth 18395 37th Place N. Plymouth, MN 55446	CPGDealer02@gmail.com 6122515639	CHOOSE THIS DEALER
CPG of Maple Grove 12800 Arbor Lakes Pkwy N Maple Grove, MN 55369	CPGDealer01@gmail.com 1234567891	CHOOSE THIS DEALER

BACK TO DASHBOARD

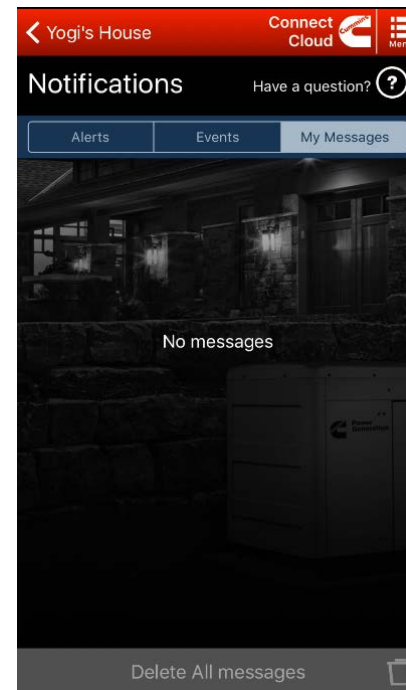
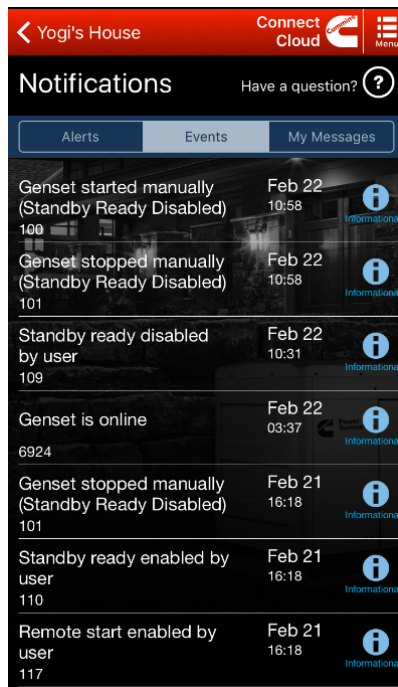
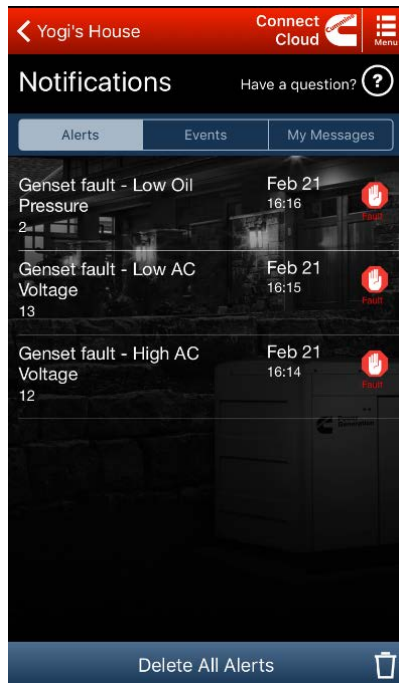
Customer Mobile App

- Dashboard view
 - What Generator is being viewed
 - Which is connected to home
 - Status of Generator
 - Notifications
 - Exercise information
 - Control status
 - Maintenance link



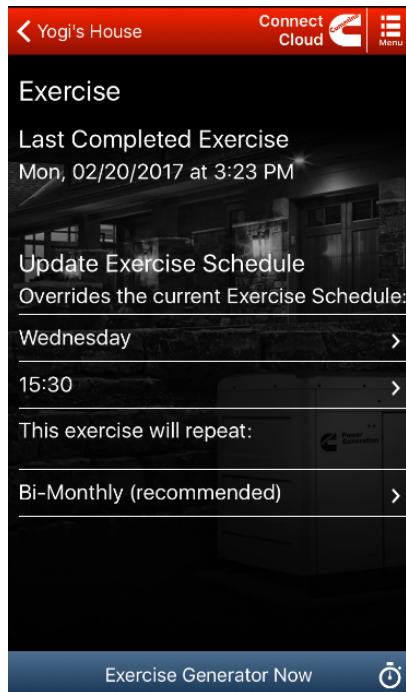
Customer Mobile App

■ Notification View

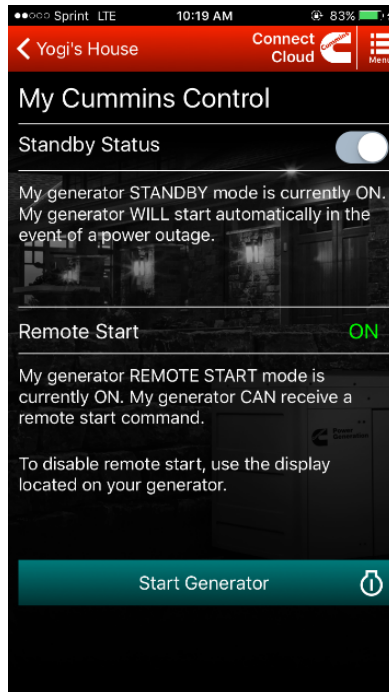


Customer Mobile App

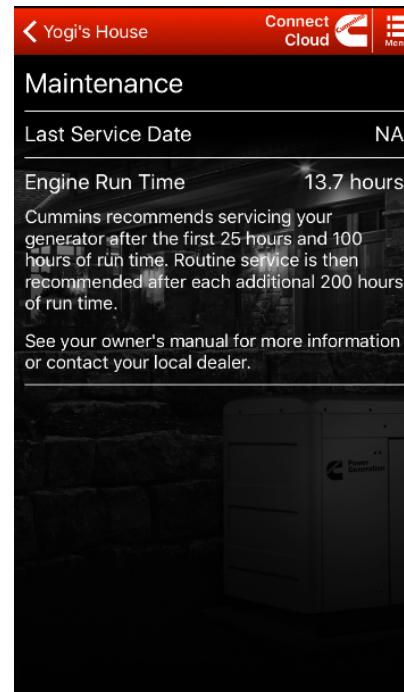
■ Exercise Information



■ Control Status



■ Maintenance



Customer Mobile App

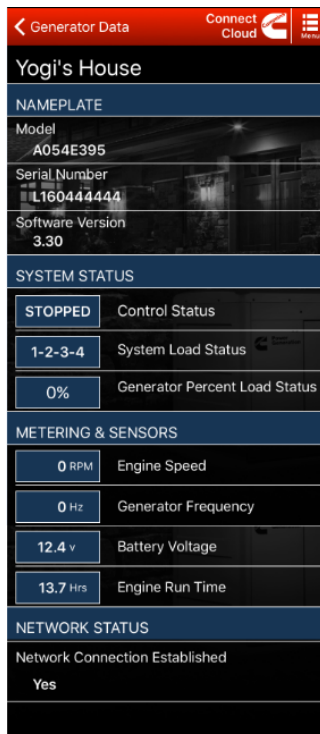
■ Menu Options



- My Home
- Generator Data
- Settings
- Contact Cummins

Customer Mobile App

■ Generator Data



Generator Data Connect Cloud

Yogi's House

NAMEPLATE

Model
A054E395

Serial Number
L16044444

Software Version
3.30

SYSTEM STATUS

STOPPED Control Status

1-2-3-4 System Load Status

0% Generator Percent Load Status

METERING & SENSORS

0 RPM Engine Speed

0 Hz Generator Frequency

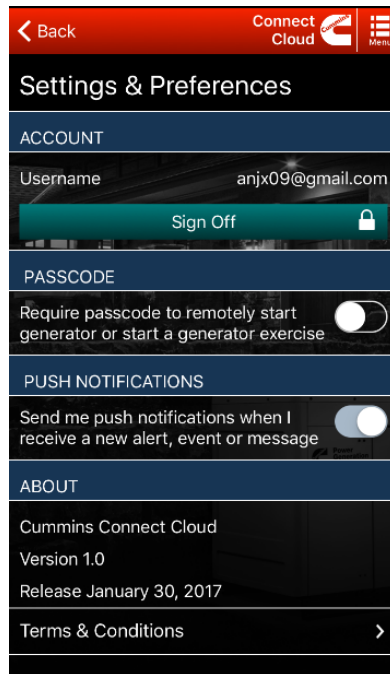
12.4 v Battery Voltage

13.7 Hrs Engine Run Time

NETWORK STATUS

Network Connection Established
Yes

■ Setting



Settings & Preferences Connect Cloud

ACCOUNT

Username anjx09@gmail.com

Sign Off

PASSCODE

Require passcode to remotely start generator or start a generator exercise

PUSH NOTIFICATIONS

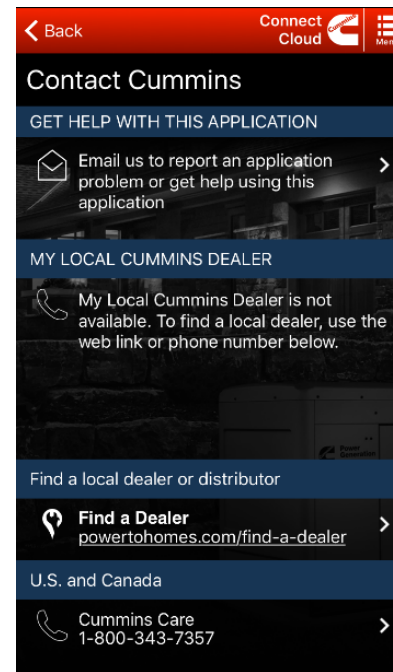
Send me push notifications when I receive a new alert, event or message

ABOUT

Cummins Connect Cloud
Version 1.0
Release January 30, 2017

Terms & Conditions

■ Contact



Contact Cummins Connect Cloud

GET HELP WITH THIS APPLICATION

Email us to report an application problem or get help using this application

MY LOCAL CUMMINS DEALER

My Local Cummins Dealer is not available. To find a local dealer, use the web link or phone number below.

Find a local dealer or distributor

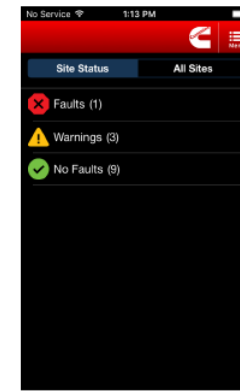
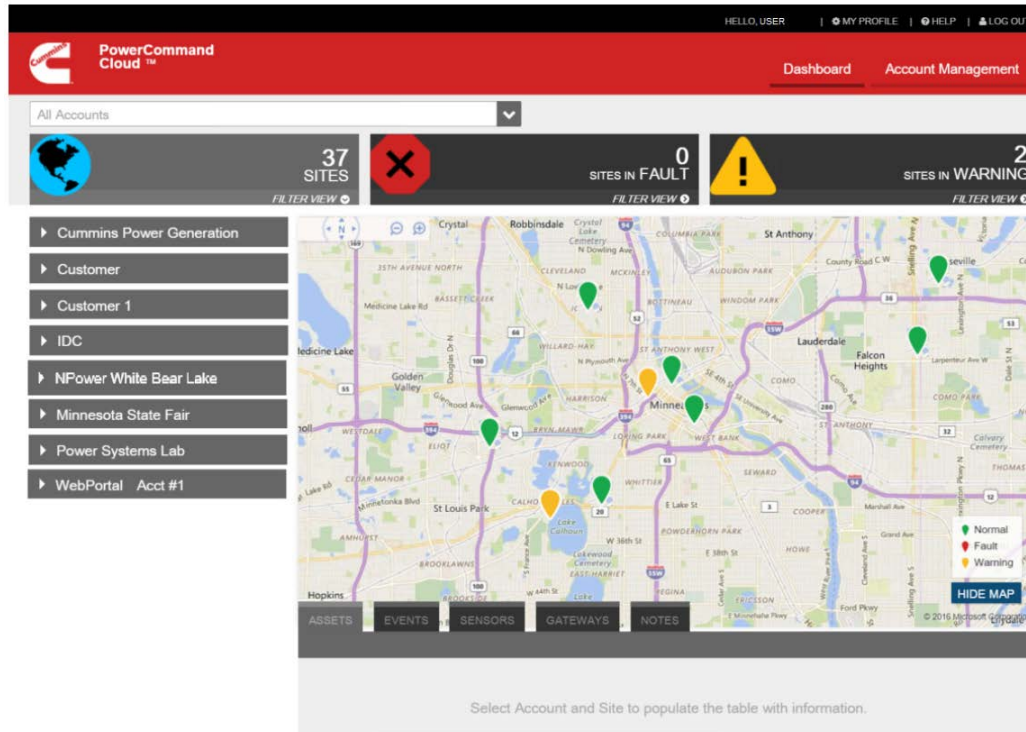
Find a Dealer
powertohomes.com/find-a-dealer

U.S. and Canada

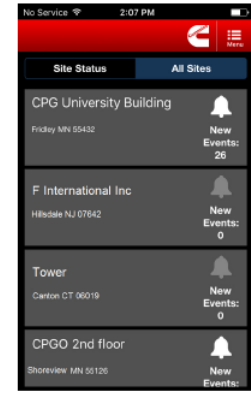
Cummins Care
1-800-343-7357

Dealer Account Management

Monitor all generators



Mobile APP Dashboard screens.



Dealer Account Management

Get more information on a individual generator

PowerCommand Cloud

HELLO, USER | MY PROFILE | HELP | LOG OUT

Dashboard | Cummins Power Generation | Power Systems Simulator | GenSet2

GenSet2

Model: C1000 D6

Serial Number:

Control Model: POC3300

Description:
Engine Model: QST30G4
Standard Alternator: HC8K
Frequency: 60Hz

Normal

Run Status

Stopped

Control

Remote Start

Remote Stop

Fault Reset

Last Update: 7/10/2016, 2:15:20 PM

DETAILS | EVENTS | DATA/TRENDS | NOTES

Annunciator Data	
Supplying Load	Check GenSet
Running	Ground Fault
Common Alarm	High AC Voltage
Not in Auto	Low AC Voltage
High Battery Voltage	Under Frequency
Low Battery Voltage	Overload
Charger AC Failure	Overcurrent
Fail To Start	Short Circuit
Low Coolant Temperature	Reverse KW
Pre High Engine Temperature	Reverse KVAR
High Engine Temperature	Fail To Sync
Pre Low Oil Pressure	Fail To Close
Low Oil Pressure	Load Demand

Alternator Data	L1	L2	L3	Units
Voltage L-L	0	0	0	V
Voltage L-N	0	0	0	V
Current	44	43	44	A
Frequency	0			Hz
Total kVA	0			kVA
Total kW	0			kW
Total Power Factor	1			

Engine Data	Value	Units
Battery Voltage	27	V
Average Engine Speed	0	rpm
Coolant Temperature	87.80	°F
Oil Temperature	87.80	°F
Oil Pressure	52.20	psi
Fuel Level	-	%
Fuel Rate	-	Gal/hr
Engine Runtime	1643.90	Hours

No Service | 2:40 PM

< Assets

Lake Street
Gen 1 Basement

Running

No Fault

Events | Data | Nameplate

Alternator >

Engine >

Annunciator >

Stop | Fault Reset

ON-THE-GO ACCESS



**ANYTIME
ANYWHERE**
access from
unlimited devices

PROFITABILITY



Additional stream of
REVENUE

Marketing opportunity
to generate **LEADS**

PRODUCTIVITY



Solve service issues
FASTER

DELIGHTFUL customer
experience

MANAGE MULTIPLE CUSTOMER ACCOUNTS



FILTER genset status
by criticality

Access warning/fault
signs in **SINGLE VIEW**

Summary

- The Integrated ATS
 - Fewer number of components required and simplified installation of a standby generator system
 - Allows customers to select a generator size and ATS which meets their budget due to flexibility to decide which loads they want energized during an outage
- The Load Management Kit
 - Offers customers additional piece of mind by preventing generator overload
 - Optimize generator set size and transfer switch based on budget and needs
- Cummins Connect Cloud
 - Customers Advantage - Allows customers to keep track of their system at all times and easily find help if and when required
 - Dealer Advantage - Increased leads, profitability and productivity

QUESTIONS?

