



March 18, 2019

Florida Building Commission
Building Codes and Standards Office
2555 Shumard Oak Blvd
Tallahassee, Florida 32399-2100

RE: Submission of EnergyGauge Summit 6.10 for approval for the 6th edition
Florida Energy Code for Commercial Buildings

The Florida Solar Energy Center (FSEC) is pleased to submit EnergyGauge Summit 6.10 for approval for the 6th edition Florida Energy Code for Commercial Buildings.

Certification

To the best of our knowledge, judgement and interpretation, we certify that the software submitted for approval meets the requirements to demonstrate compliance of the 2017 6th Edition Florida Energy Code for commercial buildings and the procedures of the "Energy Simulation Tool Approval Technical Assistance Manual, TAM-2017-1.0".

Disclaimer

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Updates in EnergyGauge Summit 6.10 compared to version 6.00
for 6th edition Florida Energy Code for Commercial Buildings

Update 1: Fan System Power and Efficiency for the ASHRAE Energy Cost Budget Option

The snap shot below (from ASHRAE 90.1-2013) gives the compliance requirements when using ASHRAE 90.1-2013 Section 11 - Energy Cost Budget (ECB) Option for compliance:



11.2 Compliance. Compliance with Section 11 will be achieved if

- a. all requirements of Sections 5.4, 6.4, 7.4, 8.4, 9.4, and 10.4 are met;
- b. the design energy cost, as calculated in Section 11.5, does not exceed the energy cost budget as calculated by the simulation program described in Section 11.4; and

ASHRAE 90.1-2013 Section 6.4 contains the mandatory provisions for equipment as shown in the snapshot (from ASHRAE 90.1-2013) below.

6.4 Mandatory Provisions

6.4.1 Equipment Efficiencies, Verification, and Labeling Requirements

6.4.1.1 Minimum Equipment Efficiencies—Listed Equipment—Standard Rating and Operating Conditions. Equipment shown in Tables 6.8.1-1 through 6.8.1-13 shall

However, as the snap shot (from ASHRAE 90.1-2013) below shows “Fan System Power and Efficiency” is part of Section 6.5 and not part of Section 6.4 and hence not required in the ASHRAE ECB option

6.5.3.1 Fan System Power and Efficiency

6.5.3.1.1 Each HVAC system at fan system design conditions shall not exceed the allowable fan system motor nameplate hp (Option 1) or fan system bhp (Option 2) as shown in Table 6.5.3.1-1. This includes supply fans, return/relief fans, exhaust fans, and fan-powered terminal units associated with systems providing heating or cooling capability. Single-zone variable-air-volume systems shall comply with the constant-volume fan power limitation.

However, in EnergyGauge Summit 6.00, the minimum Fan System Power and Efficiency from section 6.5 was inadvertently included as a compliance requirement for the for the ASHRAE Energy Cost Budget Option. EnergyGauge Summit 6.10 corrects this error. Shown below is a sample of the correction in the output report:

Pr0Sy4	System 1	Constant Volume Packaged System--902					No. of Units 1
Component	Category	Capacity	Design Eff	Eff Criteria	Design IPLV	IPLV Criteria	Comp- liance
Cooling System	Air Conditioners Air Cooled 135000 to 240000 Btu/h Clg Capacity	146944	12.80	11.00	12.90	12.40	PASSES
Heating System	Electric Furnace	271640	1.00	1.00			PASSES
Air Handling System -Supply	Air Handler (Supply) - Constant Volume	5030	0.90	0.82			FAILS
Pr0Sy5	System 1	Constant Volume Packaged System--902					No. of Units 1
Component	Category	Capacity	Design Eff	Eff Criteria	Design IPLV	IPLV Criteria	Comp- liance

EnergyGauge Summit® Fla/Com-2017. TAM 2017-1.0 Compliant Software. Effective Date: Dec 31, 2017
Florida Building Code, Sixth Edition (2017) - Energy Conservation ASHRAE 90.1-2013 - Energy Cost Budget Option

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Output Sample in EnergyGauge Summit 6.00, ECB option

Pr0Sy4	System 1	Constant Volume Packaged System--902					No. of Units 1
Component	Category	Capacity	Design Eff	Eff Criteria	Design IPLV	IPLV Criteria	Comp- liance
Cooling System	Air Conditioners Air Cooled 135000 to 240000 Btu/h Clg Capacity	146944	12.80	11.00	12.90	12.40	PASSES
Heating System	Electric Furnace	271640	1.00	1.00			PASSES
Air Handling System -Supply	Air Handler (Supply) - Constant Volume	5030	0.90	0.82			Not Required
Pr0Sy5	System 1	Constant Volume Packaged System--902					No. of Units 1
Component	Category	Capacity	Design Eff	Eff Criteria	Design IPLV	IPLV Criteria	Comp- liance

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Output Sample in EnergyGauge Summit 6.10, ECB option. Note Fan System minimum requirements have been removed

There are no other updates relating to 6th ed. Florida Energy Code for Commercial Buildings. All submissions made with version EnergyGauge Summit 6.00 remain the same, except for the above version 6.10 correction in all ECB output reports. Thus, documents that are the same as version 6.00 submission are not being resubmitted.

Appendix A:
**Cover sheet for request for approval by the Florida Building Commission as a
Compliance Software tool**


Date of Submittal: March 115, 2019
Software Company: **Florida Solar Energy Center**
Contact Person: **Muthusamy Swami**
Contact email: **swami@fsec.ucf.edu**
Contact Phone: **321-638-1410**
Name of Product (If marketed under different editions or names list all that apply):
EnergyGauge Summit (see instructions on page 6)
Version Number: **6.10**

Code Compliance Methods this software calculates:

Commercial Energy Efficiency Code Compliance

- ☒ FEC Prescriptive Method
- ☒ FEC Total Building Performance Method
- ☒ FEC Component Performance Alternative Option
- ☒ ASHRAE Prescriptive Method
- ☐ ASHRAE Envelope Trade-off Option Method (this method is not offered in the software)
- ☒ ASHRAE Energy Cost Budget Method

As an official of the software company named above, I certify the software listed meets the requirements of the Florida Building Code, Energy Conservation 6th Edition (2017) for the methods indicated and that this submittal includes the required documentation as given in the Energy Simulation Tool Approval – Technical Assistance Manual or as requested by the Florida Building Commission:



Signature

March 18, 2019
Date

Muthusamy Swami
Printed Name

Program Director
Title

EnergyGaugeSummit 6.10 Filing version

Steps to running this version:

- 1) Download the install package to your computer from the link below:
<http://energygauge.com/downloads/setups/summit610filing.exe>
- 2) Run the install package on your computer to install EnergyGaugeSummit 6.10 Filing version
- 3) This will install EnergyGaugeSummit 6.10 Filing version side-by-side with any other version you may have.
- 4) After successful installation, run EnergyGauge Summit.
- 5) Open any existing .egc you may have OR a sample is available under the your installed directory (usually Program Files or Program files (x86)) /EnergyGauge/EnergyGaugeSummitFiling/Samples
- 6) From Calculate menu run Calculate --> 6th edition (2017) Florida Energy Code Compliance --> ASHRAE 90.1-2013 - Energy Cost Budget Method
- 7) Once the output report is generated, you will notice under the system compliance report section that all Air Handling System (FAN) compliance will show "Not required", instead of PASS or FAIL. Running compliance options other than ASHRAE 90.1-2013 - Energy Cost Budget Method will show the usual PASS or FAIL as in earlier versions.