DAELIM BELEFIC

BESS (Battery Energy Storage System) Transformer Solution

01 GENERAL INTRODUCTION

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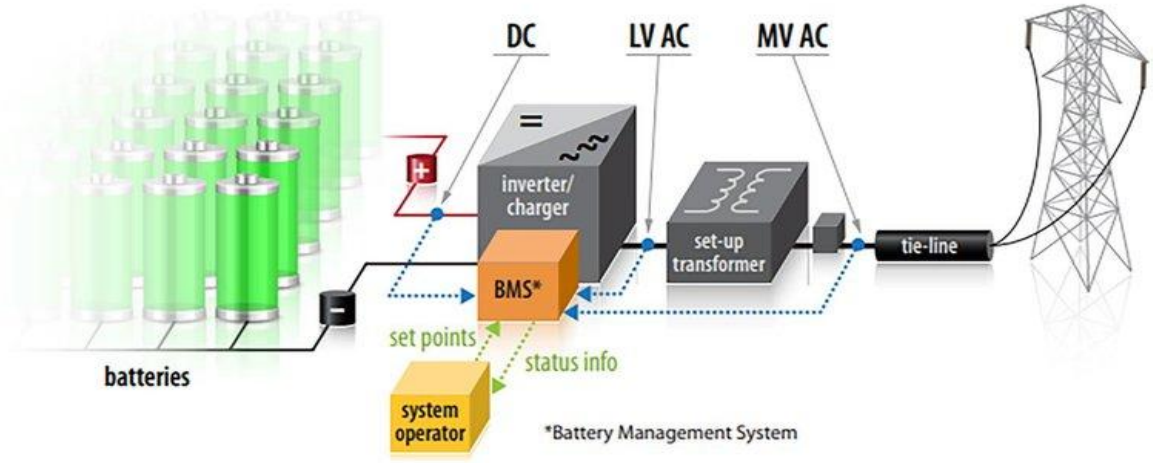
DAELIM Transformers *for application in* Battery Energy Storage Systems *(BESS)* . A BESS is a type of energy storage system that uses batteries to store and distribute energy in the form of electricity.

These systems are commonly used in electricity grids and in other applications such as electric vehicles, solar power installations, and smart homes.

At its most basic level, a BESS consists of one or more batteries that store electrical energy for use at a later time. This stored energy can then be drawn upon when needed to meet various demands for power across different applications.

From residential rooftops to commercial and industrial applications and utility-grade power plants, DAELIM's fit-for-purpose BESS distribution transformers are speifically match to different inverter sizes and their applications.



Core Features

1. FR3 dielectric fluid provides fire safety, equipment reliability and a projected lifespan well beyond that of a traditional mineral-oil transformer making it a key component in balance of system (BOS) distributed energy resources (DER) solutions

2. Custom optimized transformer designs for specific loading profiles, impedance requirements, and single or multiple inverter connections

3. Increased overload capability above nameplate without loss of insulation life

4. Fully complements BESS solutions including DC and AC combiners, disconnects, fuses, breakers and AC recombiners, padmounted switchgear, pole-mounted reclosers, air switches, capacitors and a full offering of services

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Transformer Selection Parameters:

1. Rated output kVA:

- *Based on inverter output ratings, load diagram, harmonic content, weather patterns and unusual service conditions*

2. Nominal Voltage:

- *Designed for Inverter Transformer to be compatible with Pulse voltage shape of inverters*

3. Winding connection diagram and vector group:

- *Inverter operation is not afected by vector group like Dy1 , Dy5 or Dy1 1*
- *No Neutral required on Primary LV side*
- *Isolated neutral point on Secondary HV side transformer*

4. Electrosta tic Shield (ES) :

- *Recommended installation of ES between primary and secondary windings to minimize potential transfer of high frequency voltage disturbances(harmonics, pulses, surges) from primary to secondary*
- *Windings typically connected to inverter circuits are ungrounded*

DAELIM fully complies with C5 7 . 1 5 9 - 2 0 1 6 IEEE Guide for application in DPV Power generation Systems.

02
PAD MOUNTED TRANSFORMER

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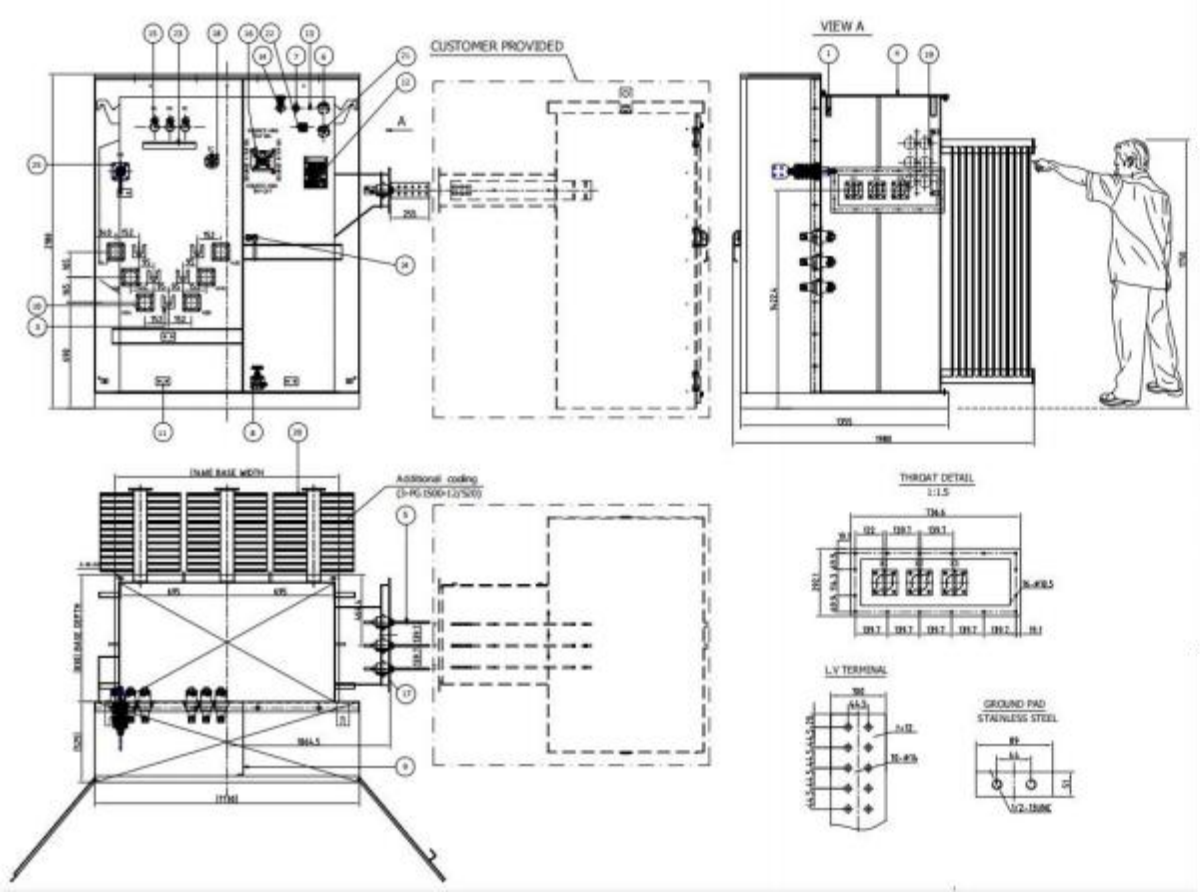
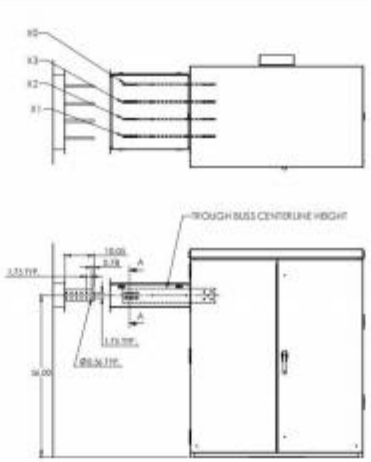
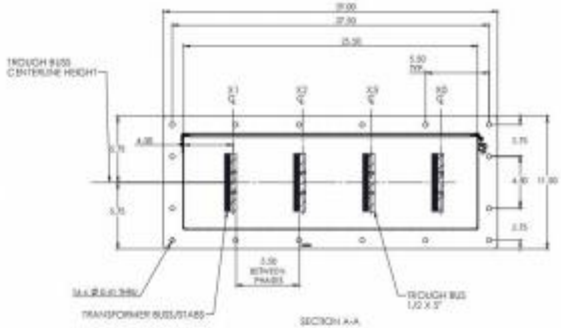
Design







Phases: Three
Frequency: 50 Hz, 60 Hz
Standard: IEEE, CSA
Tank Type: Padmount
Base rating: 750 kVA through 10,000 KVA
High Voltage (HV): 2.5 kV through 35 kV
Low Voltage (LV): 208Y/120 to 25,000V
Windings: Copper, Aluminum
* BESS-pads available in various configurations to accommodate typical inverter connections and performances

03
SUBSTATION
TRANSFORMER

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Advantage:

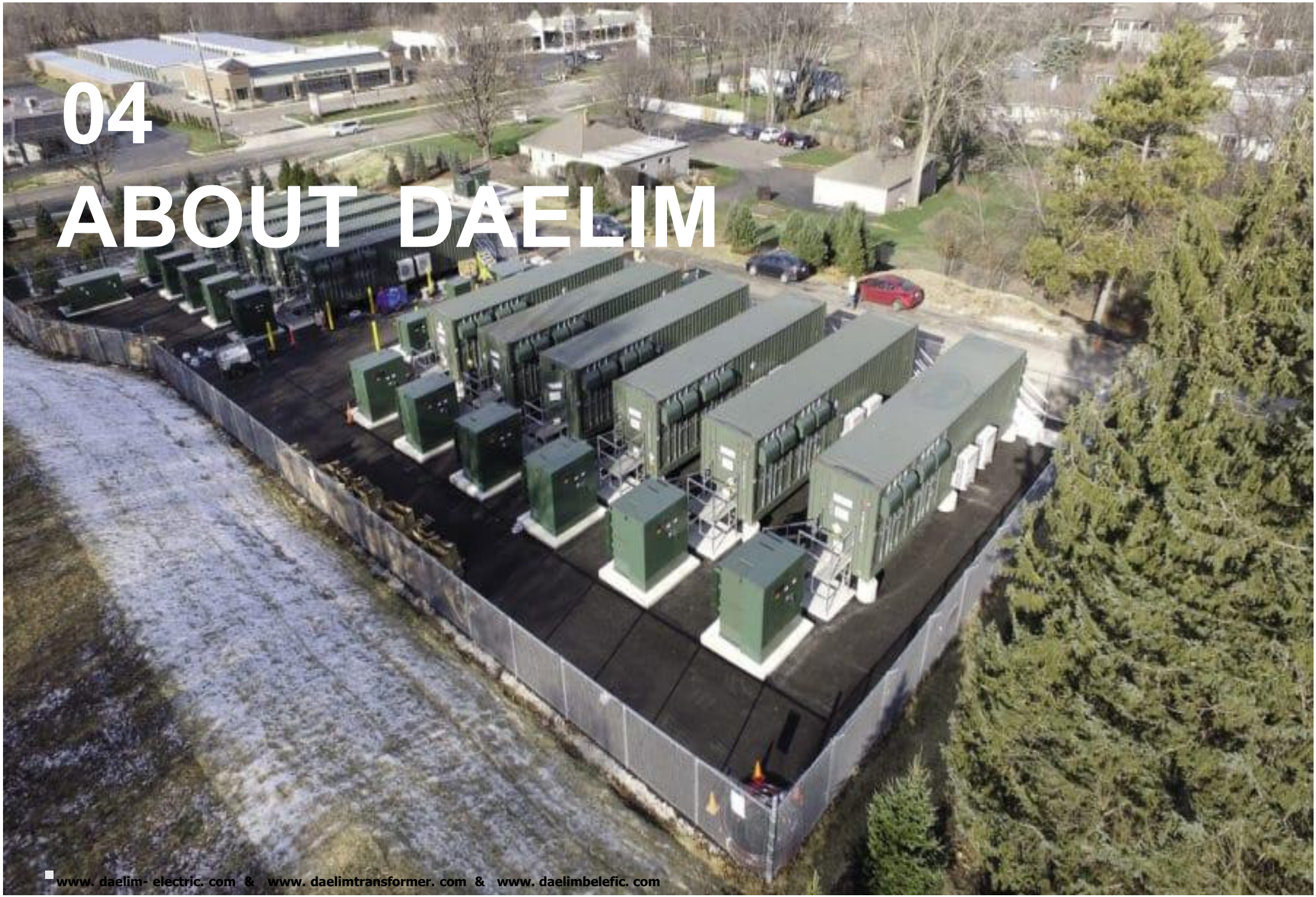
1.Experience in supplying multiple projects in the American Countries such as U.S. and Canada

2. Qualified with UL, cUL, CSA certificate, SGS test report, etc.

3. Complete after- sales service and installation teams in Canada, USA, etc.

4. Strong design ability for hgh efficiency, special ambient, low sound level, 50 hz and 60 hz , k-factor rating, etc

5. 6-7 weeks production time



04
ABOUT DAELIM

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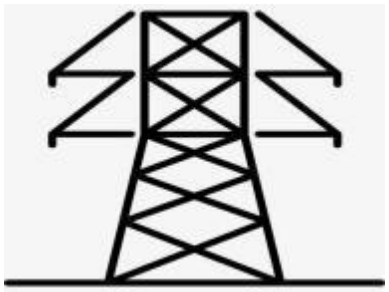
DAELIM Features:

1 . The supplier is a manufacturer?

DAELIM: We are a professional IEC, ANSI/ IEEE, CSA and AS standard transformer manufacturers. We accept any third party to audit factory.

2 . They can provide faster delivery time than our previously supplier?

DAELIM: For normal transformers, our standard production time is 4-6 weeks, for customized transformer, our fastest production time is 6-8 weeks.



3 . They can meet the T&D or products requirements?

DAELIM: We have a professional tech and production team. Our team can do transformer customized design and production as per customer requests.

4 . They can meet our countries standard?

DAELIM: Our engineering team consists of many experienced experts. They are very professional and familiar with international standards.

5 . How about their transformers price?

DAELIM: Because our factory located in the transformer base in China, we have well raw material supply chain. So we can always provide the competitive price to our customers.

6 . They have experience in my country?

DAELIM: We are exported more than 30 countries around the world. And we are happy share our project case for our customer reference.

DAELIM SOLUTIONS:

Understanding our customer needs allows us to make critical must-be- made decisions directly related to their needs.

1. Fast submit the drawing

In order not to affect the delivery time, DAELIM engineer team delivered the drawings in batches. 60% of the drawings were delivered within two weeks and production was arranged in time The remaining drawings were successfully delivered in the remaining two weeks.

2. Make a good production plan

DAELIM' s management pay much attention to the needs of customers, and has communicated with the production team and our supplier team for many times. The workers worked overtime to ensure the delivery of the customer requests.

3. 100% meet the standard requirements

Our team of engineers studied the CSA Standard carefully. Because they are based on IEEE standard, DAELIM designed and produced them according to it. For the existing technical problems or difference, our team has carried out hundreds of e-mail and telephone communication with customers.

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1. ***R&D Capabilities:***

They have strong R&D team and they have more than 20 years of transformer design experience and arefamiliar with lots of international transformer standards, such as IEC, IEEE/ ANSI, CSA, etc. The technical team of DAELIM are experts, electrical engineers, CADfirst-class draftsmen, etc. They also use the latest technology, machines and other modernfacilities to produce transformers, but meanwhile DAELIM transformers are made of qualified standard materials which meets the standards of world-renowned suppliers through international procurement as well.

2. ***Quality Control:***

Quality is one of the core value of DAELIM. FAT, Type and third party inspection test are provided for quality and they tend to provide the best to its clients that 's why they strictly implement the ISO 9001 quality management system.

CompanyCertifications:

ISO 9001:2008 UL/cUL certification CSA certification CESI certification CNAS certification SGS certification

4. ***Professional teams:***

The Daelim team is full of experts and professional, this helps them to solve the customers' problems quickly. All the DEALIM team had systematic training and is committed to continuous improvement by the quality guidelines and practices. Their dedicated customer service, product innovation, engineering excellence and strong social & environmental responsibility sense have made them to become a valued & trusted power solutions partnerfor globe electricindustry.

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5. Brand:

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS:

A. ABB/Hitachi
B. Eaton/Cooper Power Systems.
C. Delta Star.
D. General Electric.
E. Kuhlman.
F. Pauwels.
G. Square D.
H. Virginia Transformer.
I. Sunbelt
J. Daelim Belefic

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Thank you

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