

REQUEST #RFP_2019_0163

Integrated module of CT core and terminal block

RESPONSE DUE DATE: **September 30, 2019**

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Opportunity

Joint/contract development, technology licensing, product supply

Timeline

Phase 1: Proof of Concept: within 6 months

Phase 2: Performance Verification: within 3 months after phase 1

Phase 3: Preparation for mass production : within 1 year after phase 2

Financials

Necessary development expense will be covered (Details to be discussed).



DESCRIPTION

NineSigma, representing a **global industrial equipment manufacturer** ("Client"), seeks **integrated module of current transformer (CT) core and terminal block with high robustness and safety** for digital relay and digital metering device.

The client would like to seek a development partner for the target below.

Development Target

The target is to develop an integrated module that satisfies the following:

- Current measurement function
 - Measuring range of the primary current
 - 0.1 ~ 250A
 - Continuous current rating
 - Up to 10A
 - Good linearity: 0.1% or less
 - Low measurement variation: 0.1% or less
- Robustness against large current
 - There should be no abnormality even if a current of 500A is applied for 1 sec.
 - There should be no abnormality even if a current of 150A is applied for 10 sec.
- Safety

- To be safe if the integrated module is disconnected from PCB while primary current applied.
- To meet UL safety standard

Although the Client seeks CT and terminal block that can meet the above-listed requirements, it is not necessary for all of them to be met at this point. We accept proposals that will likely be verified at a lab level through additional development within 6 to 9 months.

POSSIBLE APPROACHES

The Client expects technologies such as the following approaches, but is open to others:

- CT structure
 - Coil type
 - Window/Through type
 - Sprit/Division type
- Connection method of Terminal block
 - Screw type
 - Push-in type

BACKGROUND

The Client engages in the development of integrated module of CT core and terminal block for digital relay and digital metering device

applications in the smart energy field (e.g. smart grid, energy management system (ESS), etc.). In order to apply to these applications, safety and robustness against high current and measurement accuracy of the module are required.

To establish a development of integrated module of CT core and terminal block such as customization of conventional products, etc. have been tried. However, there are problems with safety and robustness against high current, etc., As a result, the required characteristics have not been achieved.

Therefore, the Client has decided to make this RFP to quickly identify a high-performance product or a prospective technology development partner, aiming at solving the technological challenges and putting the technology to practical use at an early stage.

ITEMS TO BE SUBMITTED

Please include the following items in your proposal:

- Overview and principle of proposed technology
- Characteristics and uniqueness of the technology
- Development stage: lab level verification, under development for practical use, or implemented for practical use
- Current performance
 - CT core
 - Material
 - Structure type
 - Measurement range of current
 - Current linearity (%)
 - Measurement variation (%)
 - Robustness against 500A current for 1 sec./150A current for 10 sec.
 - Size
- Expected challenges in this project
- Future development plan to achieve the client's requirements
- Past results (e.g. research papers, patents)
- Profile of proposer

Please submit your proposal via [NineSights](#), the platform of NineSigma's Open Innovation community, which allows you to manage all your proposals. Please contact the Solution Provider Help Desk phd2@ninesigma.com for assistance about registration and proposal submission.

NOTES ON RESPONSE

Proposal shall have clear points and should not include confidential information. Supplemental files may be submitted in addition to the proposal.

RESPONSE EVALUATION

The client will evaluate all responses with the following criteria.

- Overall scientific and technical merit
- Approach to proof of concept or performance
- Economic potential of concept
- Realism of the proposed plan (action items, timeline, roles, deliverables, cost estimation)
- Potential for proprietary position
- Respondents' capability and related experiences

ANTICIPATED PROJECT PROCESS

After the submission due date, the client will review all submitted proposals. NineSigma will send the review results to each proposer 6-8 weeks after the due date. The client possibly asks clarifying questions before selecting the most suitable candidates for collaboration. The client will select best candidates through evaluations. During the selection process, the client may execute NDA with selected respondents, seek further information disclosure, and discuss specific development targets or potential opportunities. The client will execute necessary agreements with the selected respondents and move to the advanced development phase. Specifics of any collaboration will be determined through consultation with the concerned parties.