iCONN SYSTEMS, LLC an R2M co.

ENGINEERING GUIDE

HOW TO GET THE BEST CONNECTOR FOR YOUR PROJECT

LOGISTIC CONSIDERATIONS

ELECTRICAL CONSIDERATIONS

ENVIRONMENTAL CONSIDERATIONS

REGULATORY CONSIDERATIONS

MECHANICAL CONSIDERATIONS

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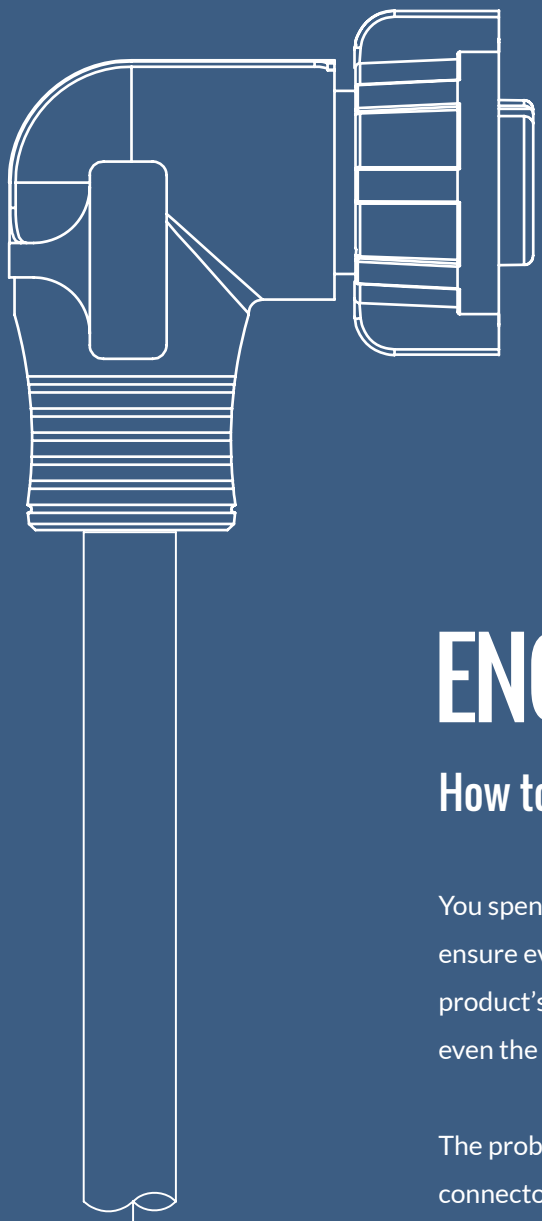

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ENGINEERING GUIDE

How to Get the Best Connector for Your Project

You spend so much time working on your product, you want to ensure every component is built to last. You're focusing on your product's outcome, and you may lose sight of the importance of even the smallest part.

The problems start when you discover you need a part—like a connector—and are under a tight deadline to get the whole project completed. This doesn't leave a lot of time to develop the connector, making it that much more important to get the correct specifications to the vendor. Doing so avoids errors that could damage your project, and keeps production on schedule and within budget.

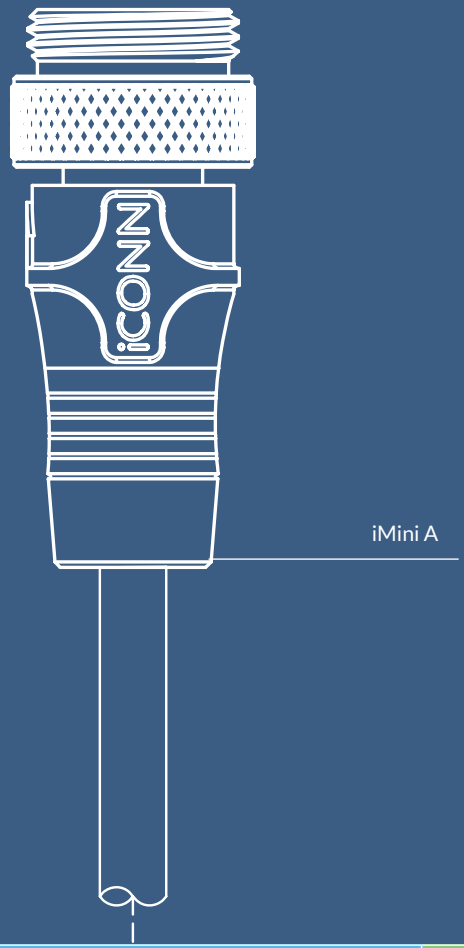
Here at iCONN, we want to see you succeed. We've compiled all the considerations you need to make when selecting a connector so you can avoid a costly mistake.

LOGISTIC CONSIDERATIONS

Starting a project means you must make sure all the parts and pieces work together.

HERE ARE THE ELEMENTS TO CONSIDER FROM THE BEGINNING:

- What type of cable does this project need?
- Do I have to inter-mate with existing connectors?
- Are there size and orientation constraints?
- Can I combine multiple connectors into one?
- How often will the connector be mated and unmated and are there ergonomic considerations?
- What third-party listings are needed?
- Do I need proprietary connectors?
- Is it beneficial to have connectors that no one else has?



WITH THESE QUESTIONS ANSWERED, IT'S TIME TO CONSIDER YOUR ELECTRICAL REQUIREMENTS

ELECTRICAL CONSIDERATIONS

MAKE SURE YOUR PROJECT HAS THE CORRECT ELECTRICAL SPECIFICATIONS BY ANSWERING THESE QUESTIONS:

- What is the operation voltage requirement?
- What is the load or electrical load requirement?
- What is the desired amperage rating?
- Will the electrical load periodically spike to a higher level?
- How many circuits will the connector have to carry?
- Is the connector providing a grounding path for AC applications?
- Does your connector need EMI/RFI Shielding?

ENVIRONMENTAL CONSIDERATIONS

Put your project in perspective by considering what environment your connector will be going into.

HERE ARE SOME QUESTIONS TO ASK YOUR TEAM:

Is the application for a wet or dry environment?
What level of ingress protection or exposure would be required?

1. Dry conditions?
2. Incidental water splashing, flooding or rain?
3. Continuous exposure to water at atmospheric pressure?
4. Continuous exposure to water at higher pressures (submersed)?
5. Systematic exposure to water through direct power washing/ high pressure spray?

- What are the environmental temperature extremes, both high and low?
- Will it be mated or unmated underwater?
- Are there chemical resistance considerations?
- Does the application require resistance to vibration?
- Will the connector be subject to high levels of pollution or debris that could get into the connector?
- Will there be exposure to potentially explosive gases? (See regulatory considerations)

REGULATORY CONSIDERATIONS

Regulations can have a big impact on your project and certain requirements can set the tone of your project.

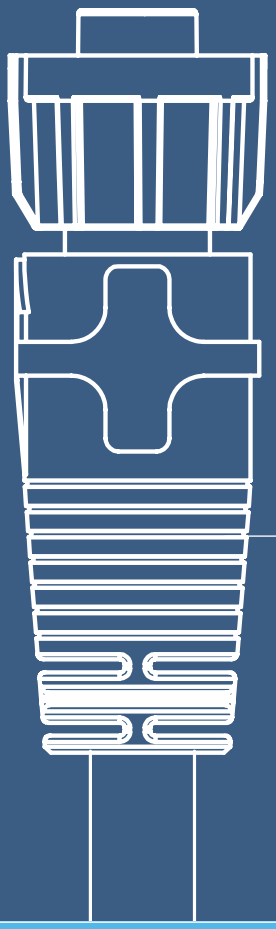
HERE ARE SOME QUESTIONS TO ASK:

- Does the application require UL or CSA listing or component recognition?
- Is the application for a classified hazardous location?
- What other standards must be met?

MECHANICAL CONSIDERATIONS

CONSIDER THESE MECHANICAL QUESTIONS:

- Will the connector be required to withstand a mechanical load?
- What style of coupling will be used: Threaded, Bayonet, Snap / Quick connect, Push-Pull
- Is there a current/previous interconnect I need to mate with?
- How many mating cycles will this product be subject to?



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THE FINAL ELEMENTS TO CONSIDER ARE VERIFICATION AND VALIDATION IN OUR NEXT SECTION

VERIFICATION AND VALIDATION CONSIDERATIONS

MANY TYPES OF TESTS ARE REQUIRED. HERE'S WHAT YOU NEED TO THINK ABOUT

Is testing required to verify or validate certain performance attributes?

1. Water ingress protection (IP)
2. Exposure to temperature variations
3. Pull Force
4. EMI/RFI Testing

- Durability Testing

- Is criteria established for acceptance after testing?
- Will PPAP or other certification methods be required?

Now that you've weighed in on all aspects of your project, it's time to get started.

CONTACT ONE OF OUR SPECIALISTS TODAY TO BRING YOUR VISION TO LIFE. ›