



BISD
Bharat Institute for
Skill Development

REAL TECHNOLOGY.
REAL IMPACT.

MASTER EV TECHNOLOGY

3.5 kW EV CHARGING STATION TRAINING KIT

BUILD. LEARN. DEPLOY.

A complete, hands-on platform to design, build and innovate smart EV charging infrastructure from hardware to cloud.



ADVANCED HARDWARE

Industry-grade control,
metering, safety
& protection



INTELLIGENT INTERFACE

RFID authentication
& multi-status
indicator board



SMART CONNECTIVITY

Wi-Fi, Ethernet
& GSM for cloud
communication



FIRMWARE & PROTOCOLS

ESP32 based firmware
with OCPP 1.6
implementation



CLOUD & MOBILE READY

MQTT, dashboard,
data logging & remote
management



MAKE IN INDIA INITIATIVE



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PRODUCT OVERVIEW

The 3.5 kW EV Charging Station Training Kit is a compact, intelligent and industry-grade platform designed to help you build complete EV charging solutions — from hardware and firmware to cloud connectivity and real-world deployment.



Key Highlights



Smart & Reliable Control

Main Control Module with high-accuracy metering, protection & safety.



Secure User Authentication

RFID based access control with multi-status LED indicator board.



Cloud Connected Platform

Wi-Fi, Ethernet & GSM connectivity for seamless cloud communication.



Industry Standard Protocols

ESP32 based firmware with OCPP 1.6 for global interoperability.



Safe & Protected Operation

Emergency stop, over-current, over-voltage, ground fault protection.



Cloud & Mobile Management

MQTT data logging, web dashboard & mobile monitoring support.



Built for Learning & Innovation

10-module tutorial series from basic setup to advanced integration.



Real Hardware. Real Experience.

Work with actual industrial components used in production-grade chargers.



From Idea to Deployment

Learn the complete journey — design, build, test and deploy real EV chargers.

What You Get

- ✓ Complete Hardware Kit
- ✓ Step-by-Step Learning Modules
- ✓ Firmware & Source Code
- ✓ PCB Gerbers
- ✓ OCPP 1.6 Stack
- ✓ Cloud Dashboard Access
- ✓ Lifetime Technical Support



LEARN
Industry skills



BUILD
Real products



DEPLOY
In the real world

**BUILD THE FUTURE OF MOBILITY.
START HERE.**

HARDWARE ARCHITECTURE

Engineered with industry-grade components for high performance, safety, and reliability. Every module is purpose-built for real-world EV charging applications.



High Performance Control

ESP32 based main controller for powerful processing and seamless operations.



Advanced Protection

Multi-layer protection against over-current, over-voltage, short-circuit & ground faults.



Accurate Metering

High-accuracy metering module for precise voltage, current, power & energy measurement.



Secure User Interface

RFID module for authorized access and a multi-status LED indicator board for clear system feedback.



Reliable Power Switching

Industrial grade relays and contactors ensure safe and stable power control.



Every component. Every connection.
Built for Real EV Infrastructure.

INSIDE THE CHARGING STATION

RFID READER
Secure access authentication

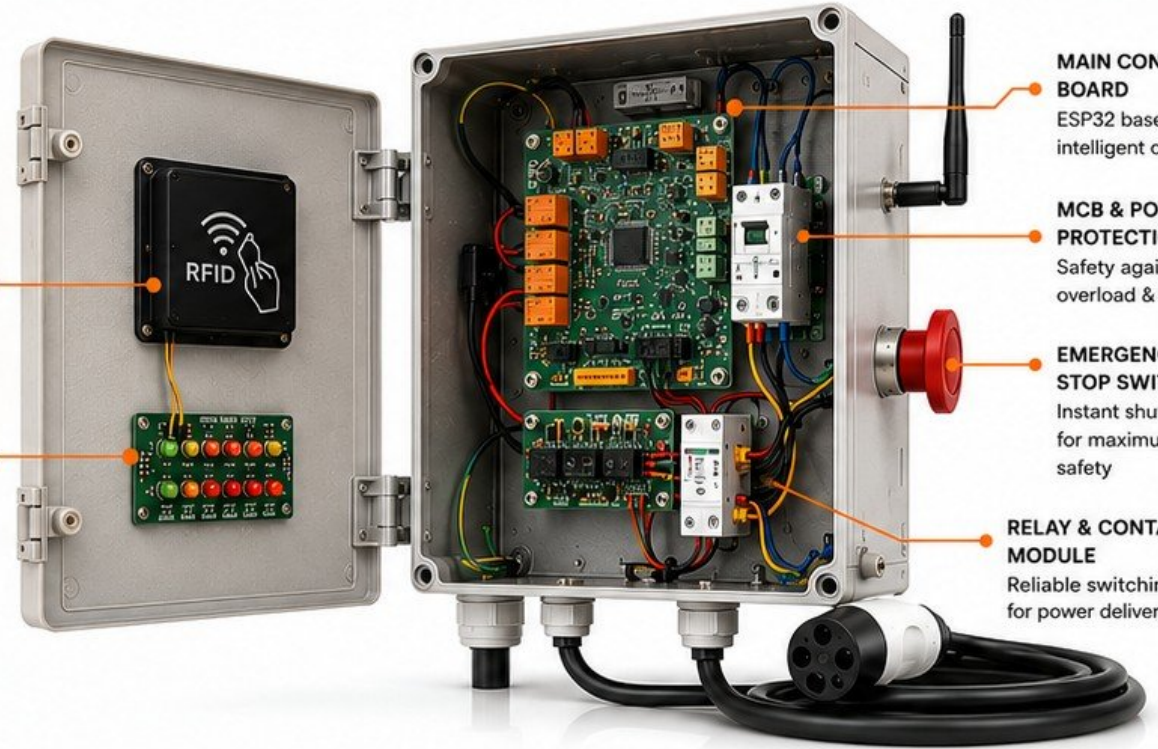
LED INDICATOR BOARD
Multi-status indication for real-time system feedback

MAIN CONTROL BOARD
ESP32 based intelligent controller

MCB & POWER PROTECTION
Safety against overload & faults

EMERGENCY STOP SWITCH
Instant shutdown for maximum safety

RELAY & CONTACTOR MODULE
Reliable switching for power delivery



KEY HARDWARE COMPONENTS



ESP32 CONTROLLER
Powerful Wi-Fi + Bluetooth controller for smart operations and cloud connectivity.



METERING MODULE
Measures Voltage, Current, Power, Energy with high accuracy for billing and monitoring.



RELAY MODULE
Industrial grade relays for safe switching and long-lasting performance.



PROTECTION SYSTEM
MCB, RCD & Surge Protection for complete safety against electrical hazards.



RFID MODULE
Secure user authentication with RFID cards for controlled access.



LED INDICATOR BOARD
Multi-color LEDs provide real-time status and system feedback.



Designed for Learning.
Built for Industry.



Real Hardware.
Real Experience.



Safe. Reliable.
Future Ready.

**BUILD YOUR OWN EV CHARGING SOLUTION
FROM HARDWARE TO CLOUD.**



SMART CONNECTIVITY. INTELLIGENT CONTROL.

Stay connected. Stay in control.

Our training kit demonstrates real-world EV charging communication with industry-standard OCPP 1.6J protocol and cloud platform integration for seamless monitoring and management.



RFID AUTHENTICATION

Secure user access with RFID based authentication.



CLOUD CONNECTED

Real-time data sync with cloud for remote monitoring.



LIVE DASHBOARD

Monitor sessions, energy, status, and alerts in real time.



OTA UPDATES

Remote firmware updates for continuous improvements.



SECURE & RELIABLE

Enterprise-grade security with encryption & data protection.

MULTIPLE CONNECTIVITY OPTIONS



OCPP 1.6J
Industry-standard protocol for global interoperability.



ETHERNET
Stable and secure wired communication.



WI-FI
Reliable wireless connectivity for flexible deployment.



GSM / 4G
Seamless connectivity in any location.



REMOTE DIAGNOSTICS
Real-time diagnostics and alerts for proactive support.













10-MODULE TRAINING CURRICULUM

LEARN. BUILD. DEPLOY.
REAL-WORLD SKILLS.

A structured 10-module training program that takes you from fundamentals to advanced EV charging technologies with hands-on learning and real-world implementation.



- | | |
|--|---|
| <p>01  Introduction to EV & Charging Standards
Understanding EV ecosystem, charging modes, connectors, and global standards.</p> | <p>06  OCPP 1.6J Protocol Integration
Implementation of OCPP 1.6J for smart communication with CSMS.</p> |
| <p>02  Main Control & Power Architecture
Study of ESP32 controller, power supply, signals, and system architecture.</p> | <p>07  Connectivity & Network Setup
Wi-Fi, Ethernet & GSM configuration for reliable communication.</p> |
| <p>03  Safety, Protection & Metering
Implement protection, safety circuits, metering and energy measurement.</p> | <p>08  Cloud Dashboard & Data Management
MQTT data flow, dashboard usage, session monitoring and reports.</p> |
| <p>04  User Interface & RFID System
Working with RFID module, user authentication and status indication.</p> | <p>09  Testing, Faults & Troubleshooting
System testing, error codes, fault analysis and debugging techniques.</p> |
| <p>05  Firmware & Embedded Programming
ESP32 setup, firmware structure, I/O handling and diagnostics.</p> | <p>10  Deployment & Hands-on Project
Complete EV charger setup, field testing and real-world deployment.</p> |

WHAT YOU WILL LEARN

- ✓ Design & build smart EV charging solutions
- ✓ Work with industry-grade hardware
- ✓ Program & configure ESP32 controller
- ✓ Integrate OCPP & cloud platforms
- ✓ Implement safety, protection & metering
- ✓ Deploy & test real EV charging station



10
MODULES

Step-by-step
learning path



40+
HOURS

Hands-on practical
training



100%
PRACTICAL

Real hardware,
Real experience.

WHO CAN BENEFIT?

-  Engineering Students (EE / ECE / EEE / ME)
-  EV Enthusiasts & Innovators
-  Working Professionals & Technicians
-  Startups & Entrepreneurs
-  Training Institutes & Educators



**SKILLS THAT POWER
THE FUTURE OF MOBILITY.**



Industry Relevant
Curriculum



Expert Designed
Content



Certificate of
Completion

**BUILD YOUR CAREER.
DRIVE THE FUTURE.**



EMPOWERING SKILLS. BUILDING THE FUTURE OF MOBILITY.

The 3.5 kW EV Charging Station Training Kit is more than a product – it's a complete learning ecosystem for future-ready professionals and innovators.





WHY CHOOSE BISD?

- 
Industry Aligned
Designed as per industry standards and real-world requirements.
- 
Hands-on Learning
Practical exposure with real hardware and projects.
- 
Expert Guidance
Learn from experienced professionals and industry experts.
- 
Future Ready Skills
Gain future-ready skills in EV technology, embedded systems & IoT.
- 
Trusted by Educators
Used by leading training institutes, engineering colleges & skill centers.

IDEAL FOR



 **QUALITY ASSURED**
Built with premium components for reliability, safety and long-lasting performance.

 **COMPLETE SUPPORT**
Lifetime technical support, documentation, updates & learning resources.

MADE IN INDIA




ABOUT BISD

BISD is committed to bridging the gap between education and industry by delivering high-quality, hands-on training solutions in emerging technologies.

**READY TO TAKE CHARGE
OF YOUR FUTURE?
LEARN. BUILD. DEPLOY.**

GET STARTED TODAY!

Shape the future of mobility with BISD.

CONNECT WITH US

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