INDUCTIVE CHARGING
POOL CLEANING ROBOTS
PROJECT 18 TEAM F10B

TASK
DESIGN AND PROTOTYPE AN
INDUCTIVE CHARGING SYSTEM
FOR A POOL ROBOT

SYSTEMS
THE INDUCTIVE CHARGING
SYSTEM CONSISTS OF A POWER
TRANSMITTER AND POWER
RECEIVER. THE TRANSMITTER
SEND OUT A SQUARE EMF WAVE
WITH A PRIMARY COIL,
MICROCONTROLLER, AND MOTOR
DRIVER. THE RECEIVER TAKES
THE EMF TO PRODUCE AN
INDUCED CURRENT WITH A
SECONDARY COIL AND SENDS
POWER TO THE BATTERY FOR
CHARGING.

DELIVERABLES
INDUCTIVE CHARGING RESEARCH,
SYSTEM DESIGN, PROTOTYPES,
TEST RESULTS, FINAL REPORT

RESIDENTIAL POWER SUPPLY
Electrical Outlet Receptacle

Plug
Power Cord
Transformer

Submerged
Transmitter Housing
Primary Coil
PCBA

Transmitter Housing Cover

Receiver
Secondary Coil
PCBA

Receiver Housing Cover

Battery
Leads

Pool Robot Cleaner

SPONSOR
FLUIDRA
MARK BAUCKMAN
VP PRODUCT DEVELOPMENT
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