DUYAR

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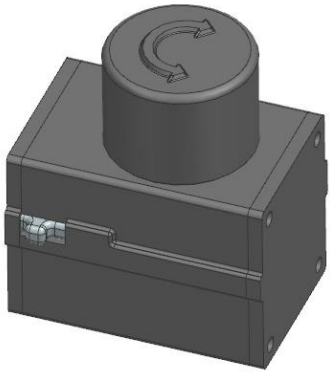
EN

DUYAR IOT POSITION INDICATOR

INSTRUCTION MANUAL EN



Instruction manual for the Smart Position Indicator

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Manufacturer:

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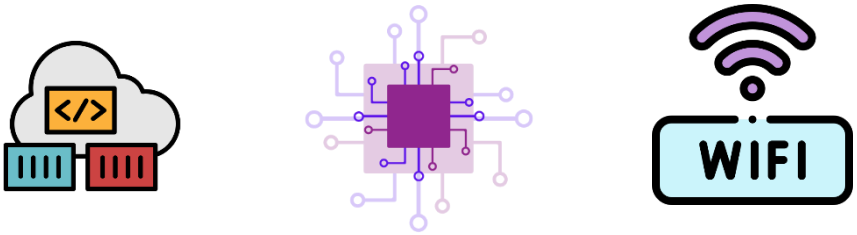


Legal Information

Warning Notice System

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

Signal Words

The following Signal words,

DANGER

DANGER, indicates an imminently hazardous situation which, if not avoided will result in death or serious injury.

WARNING

WARNING, indicates a potentially hazardous situation, if not avoided, could result in death or serious injury.

CAUTION

CAUTION, indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury.It may also be used to alert against unsafe practices.

NOTICE NOTICE, is used to address practices not related to personal injury.

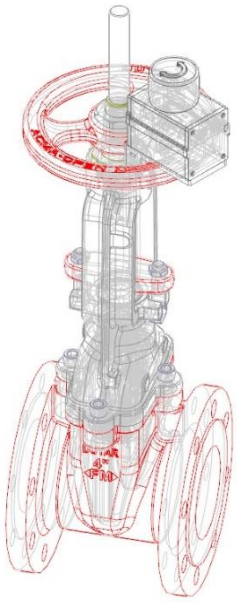
If more than once degree of danger is present, the Warning notice representing the highest degree of danger will be used. A notice Warning of injury to person with a safe alert symbol may also include a Warning relating to property damage.

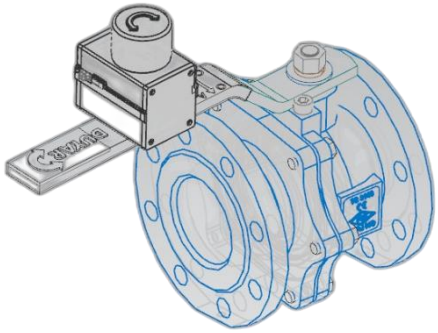
The Purpose of the Documents

This document has been prepared to provided installation and usage information of Duyar brand electronic devices.

General Information

Application of Duyar IoT Valve Position Indicator can be used in field of any kind of valves (both quarter turn valve and multiturn valve).



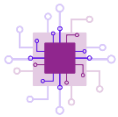


Qualified Employee

The product/system described in this documentation may be operated only by employee qualified for the specific task in accordance with the relevant documentation

in particualar its warning notices and safety instructions. Qualified employee are those based on their training and experiencei are capable of identifying risks and avoiding potential hazards when working with these products / systems.

PURPOSE:



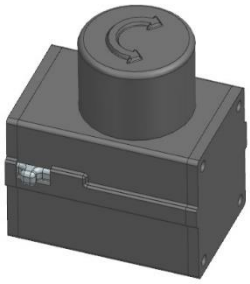
The Duyar IoT Valve Position Indicator is a multi-purpose industrial IoT(Internet of Things) device and platform that can enable numeraous different application. Typically, it will be attached to assets such as valves, motors, pumps or mobile vehicle to monitor their behaviour and state based on its inertial sensors.

Depending on the use-case, the Duyar IoT Position Indicator is able to programmed or configured to capture signals from one of its embedded sensors, perform intial pre-processing of the measured data on its microcontroller and wirelessly transmit the resulting data over one of the supported communication networks.

For Example, by mounting the Duyar IoT Wireless Position Sensor to the hand wheel or lever of a manuel valve, it is able to measure and monitor the position of the valve (in real time, valve open- valve closed or intermediate Position) It has alert section that is able to demonstrate when the set threshold is exceeded.

 **WARNING**
Using an incomplete device or a damaged device will be risk of explosion in hazardous areas. ! Do not use damaged or incomplete devices.
 **WARNING**
This product is intended for a specific temperature range and other application specifications. Failure to adhere to these specifications could result in the malfunction of the product, property damage, or personal injury.

INDICATOR SPECIFICATIONS



Measuring Principle Inertial Measurment Unit (IMU)
Measuring Ranges Full Range 0-100%
Embedded Calculation Sensor Fusion Algorithm
Operating Temperature -40 … +85°C Storage Temperature(Recommended) +25°C
Security AES 128 bits encrytion
Battery Format Field replaceable battery 18650
Battery Type Li-ion
Nominal Capacity @20°C 5000mAh
Nominal Voltage @20°C 3.6V

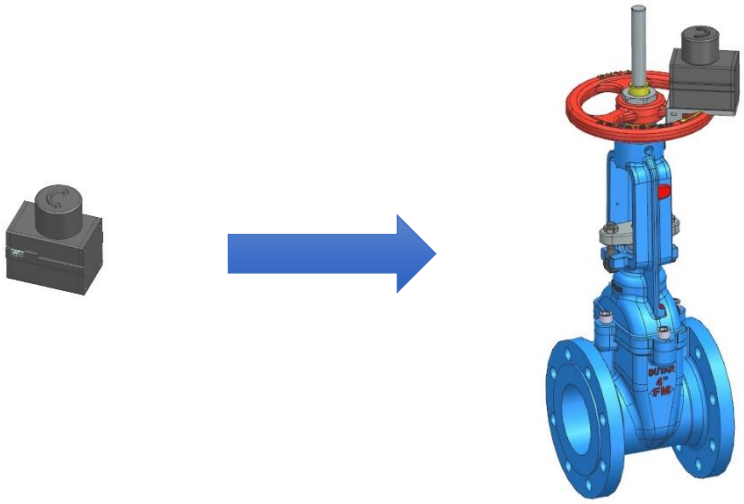
CATEGORIES	ITEMS	SPECIFICATIONS
Certification	RF certification	FCC/CE-RED/IC/TELEC/KCC/SRRC/NCC
Certification	Wi-Fi Certification	Wi-Fi Alliance
Certification	Bluetooth Certification	BQB
Certification	Green Certification	RoHS/REACH
Test	Reliablity	HTOL/HTSL/Uhast/TCT/ESD
Wi-Fi	Protocols	802.11 b/h/n (802.11n up to 150Mbps)
Wi-Fi	Protocols	A-MPDU and A-MSDU aggregation and 0.4 uS guard interval support
Wi-Fi	Frequency range	2.4 GHz ~ 2.5GHz

Sensors	Accelerometer	±2g/±4g/±8g/±16g acceleration scales
Sensors	Gyroscope	full-scale angular rate range of ±125/±250/±500/±1000/±2000 DPS
Sensors	Magnetometer	dynamic range of ±50 gauss
Sensors	Atmospheric pressure	300hPa - 1250hPa

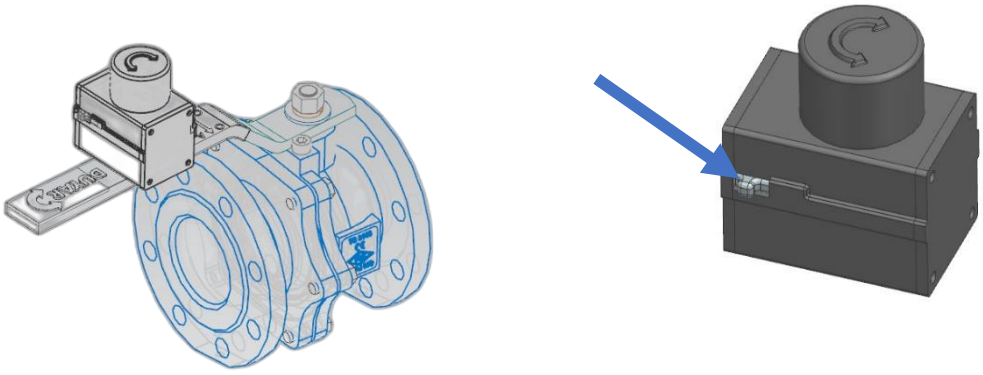
SENSOR CALIBRATION INFORMATION

To calibrate the sensor following steps should be Applied

1- IoT Pos Indicator is mounted to the valve as shown figure

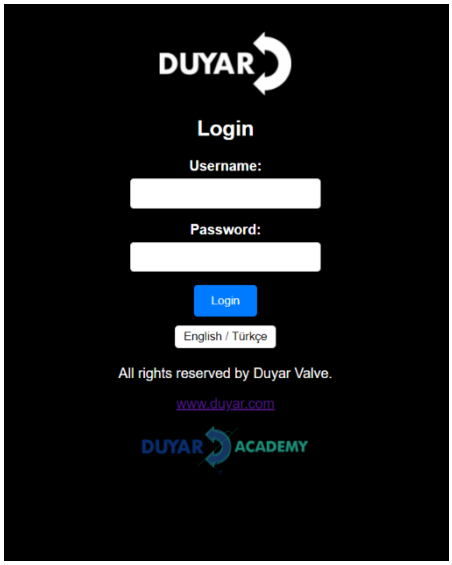


2- Adjust the valve in fully closed and turn the slider button on (it automaticly calibrate itself) .

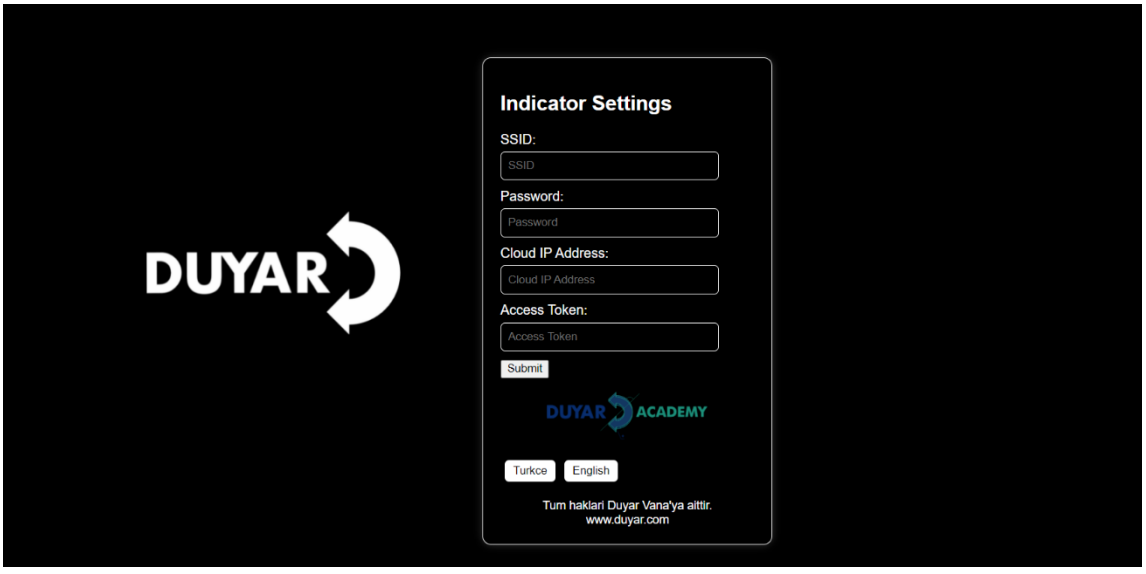


INDICATOR INITIAL SETTINGS

Before, start using the IoT Indicator, major settings should be completed.These settings are internet settings and connection settings to the Duyar Cloud interface.



Usarname and Password should be entered and after, pressing the Login button, below page will be monitored.



Wi-fi ssid , wi-fi password and given Access token, Cloud Ip adress should be filled.

If the all settings are completed successfully , the Indicator ready to connect Duyar Cloud.

DUYAR CLOUD DASHBOARD

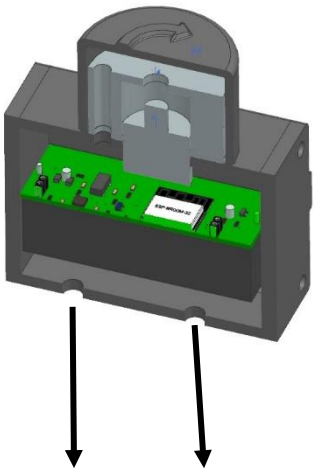
Duyar IoT Wireless Position Sensor to the hand wheel or lever of a manuel valve, it is able to measure and monitor via the cloud dashboard the position of the valve (in real time, valve open- valve closed or intermediate Position) It has alert section that is able to demonstrate when the set threshold is exceeded.

Multi-Turn Position Sense can be adjust

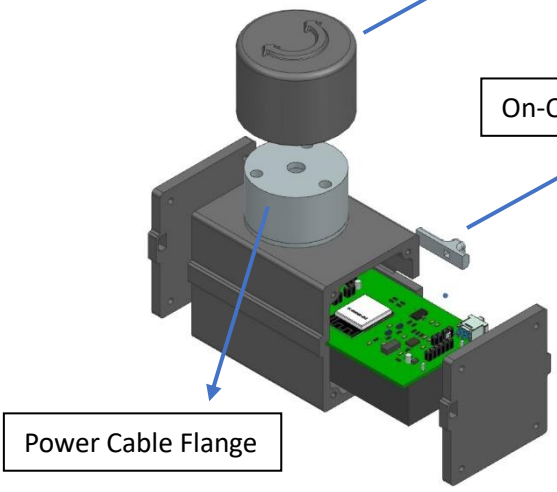
Quarter – Turn Position Sense can be adjust

Number of Tour value and valve Percentage clearance value are demonstrated.

EMBEDDED SYSTEM



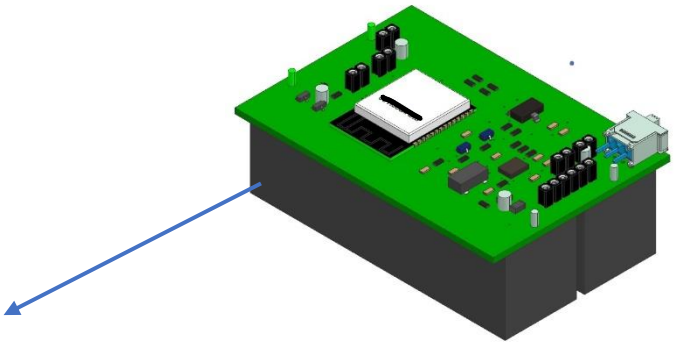
Valve Apparatus Connection Hole



Extra connection for power supply area

On-Off slider button

Power Cable Flange



18650 BATTERY CASE

INSTALLATION EXAMPLES