

PLC 192.168.10.126



OPC UA

OPC UA

READ
Connection to OPC UA Server
opc.tcp://192.168.10.126:4840/

5 s

CAPTURE TEMPERATURE IMAGE from OPTRIS PI LIGHTWEIGHT CAMERA

Publish / Subscribe
production/termosun/nestle/flame/temperature/matrix
qos: 1

Temperature Array

gs://termosun-variables-data

5 s

CAPTURE DATA FROM PLC

Publish / Subscribe
production/termosun/nestle/plc/parameters/single
qos: 1

Dict

gs://termosun-temperatures

5 s

CAPTURE IMAGE FROM CAMERA HIKVISION

Publish / Subscribe
production/termosun/nestle/visual/original
qos: 1

Image Bytes Array

gs://termosun-temperatures

Crontab

On reboot: Use usb-redirector to connect to OPTRIS PI LightWeight



MVP-6141-3E/M&G (Serial Number: L801INSE05)
Eth.1: IP Address

MQTT-Broker

Subscribe
production/termosun/nestle/flame/temperature/matrix
qos: 1

Subscribe
production/termosun/nestle/plc/parameters/single
qos: 1

Subscribe
production/termosun/nestle/visual/original
qos: 1

TEMPERATURE AVERAGE

Publish / Subscribe
production/termosun/nestle/flame/temperature/average
qos: 1

List(List[float])

T _{TL}	T _{TC}	T _{TR}
T _{CL}	T _{CC}	T _{CR}
T _{BL}	T _{BC}	T _{BR}

MQTT-Broker

360 PLC DATA ACCUMULATION

Publish / Subscribe
production/termosun/nestle/plc/parameters/batch
qos: 1

List(Dict)

MQTT-Broker

WINDOW DETECTOR & VERIFICATION

List(3, 240, 240)

Publish / Subscribe
production/termosun/nestle/flame/visual/window
qos: 1

MQTT-Broker

PRESENT WATCHER

Publish / Subscribe
production/termosun/nestle/plc/present/quality
qos: 1

Dict(float)

MQTT-Broker

PREPROCESS

Publish / Subscribe
production/termosun/nestle/plc/future/rolling_mean
qos: 1

MQTT-Broker

FLAME DETECTOR & VERIFICATION

Dict

Publish / Subscribe
production/termosun/nestle/flame/visual/flame
qos: 1

MQTT-Broker

MQTT-Broker

SAVE RESULTS

FUTURE WATCHER

1/90

Dict(float)

str

MQTT-Broker

PREPROCESS

1/10

Dict(float)

MQTT-Broker

Publish / Subscribe
production/termosun/nestle/plc/future/traffic
qos: 1

MQTT-Broker

Publish / Subscribe
production/termosun/nestle/plc/future/traffic_light
qos: 1

MQTT-Broker

Publish / Subscribe
production/termosun/nestle/plc/validator/pre
qos: 1

MQTT-Broker

SAVE RESULT .json

Jetson

Eth.1: IP Address



tf-server-future-oxygen

tf-server-future-temperature

tf-server-validator-oxygen

tf-server-validator-temperature

tf-server-detector-window

tf-server-validator-window

tf-server-detector-flame

tf-server-validator-flame

FastAPI

PARAMETERS
i05002, i05004, i05007, ..., i14011

.json

POST /validate