# TECHNICAL OVERVIEW

Tondo IoT Smart Cabinet-IQ controller

# CABINET-IQ

TEL AVIV
STOCK EXCHANGE
**TNDO**

tondo
ENLIGHTENING CONNECTIVITY

## What is the Tondo Smart Cabinet-IQ controller?

Tondo's Cabinet-IQ offers the municipalities a blended approach where new smart city IoT elements are combined with the thoughtful modernization of existing infrastructure.

The transition of the ubiquitous control cabinet from a simple stand-alone appliance to an intelligent asset is a crucial component in the development of the truly smart city.

Tondo's Cabinet-IQ controller, with its integrated monitoring and control abilities offers interfaces for future extensibility.

## What Does the Tondo Smart Cabinet-IQ controller Support?

Smart cabinets must support a wide range of capabilities:

- Intelligent lighting management
  - o Remote ON/OFF
  - o Centrally managed autonomously enacted time, astronomical and event-based control
  - o Operational monitoring and fault alerting of fixture operations
- Power monitoring
  - o Revenue-grade power metering - Accuracy Class 0.5S, four-quadrant active and reactive energy poly-phase static meter, TOU tariffing
  - o Real-time monitoring of power quality information - true RMS, volts, amps, power, power factor, neutral current, voltage and current unbalance, frequency
  - o Alerting and notifications - Under/ overpower monitoring, voltage monitoring, phase failure and daytime/nighttime consumption mismatches are reported in real-time to the central server
  - o Independent monitoring of breakers and circuits
- Control circuits through scheduled and manual interactions
- Open standards-based interfaces make it easy to integrate with 3rd party systems and virtually and sensor or control.

# Tondo speaks your language

The Tondo Cabinet-IQ is communication technology agnostic - Tondo works with most popular Wide Area Network (WAN) and  Low Power Wide Area Network (LPWAN), GSM, LTE and Ethernet communications protocols to meet your project's needs.

# Tondo is real-world ready

Strong failsafe keeps the lights running no matter what  the contingency. Remote manageability with failsafe firmware upgrade Over-The-Air keep device operating at peak efficiency. Built-in astronomical calendar, real time clock and storage ensure operations in stand-alone mode. Autonomous operations ensure that smart scheduling for on/off and dimming continues even when connectivity is lost. Remote management keeps all of your infrastructure safe, secure and up to date with active monitoring and secure firmware update.

# Tondo saves you money

Cut installation costs with plug-and-play deployments that are intelligently managed through any mobile device. Lower maintenance costs through active monitoring, real-time malfunction alerts, and remote support improve maintenance efficiency. Reduce energy consumption with grid aware real time feedback and interactive control that encourages optimization.

# Tondo is open and flexible

Tondo's Cabinet-IQ Module is the hub of a network of possibilities. Tondo's cabinet manager offers virtually unlimited configurability. No limits on schedule complexity. Complex monitoring and alerting is simply configured through the dashboard. With a wide range of interfaces Tondo can integrate with virtually any sensor or control to extend your capabilities to meet your vision.

# Tondo is Complete

Tondo provides everything you need to bring smart lighting solutions to life. With wide ranging flexibility with connectivity, communications and expansion, Tondo's Cabinet Manager is an open and flexible hub of possibilities. The fundamental building block of your smart lighting network, Tondo's Cabinet-IQ Module make it easy to leverage the power of industry-standard sensors and devices to make the environment smarter, safer and mor inclusive.

# Technical parameters

## PHYSICAL ATTRIBUTES

- Fanless design in aluminum, rugged housing
- Designed for reliability and 24/7 operation
- DIN-rail and wall mounting

## SUPPLY VOLTAGE

- AC 85-300 V / DC 8-36 V

## TEMPERATURE RANGE

- -40C to 80C

## ETHERNET PORT

- RJ45 connector
- 100Mb/1Gb

## GSM CONNECTION

- GPRS/3G/4G/LTE
- Integrated GPS

## I/O

- 12 Digital Inputs (Dry Contact) for circuit and breaker monitoring
- 4 Relay Outputs 250V/5A AC for contactor and actuator control
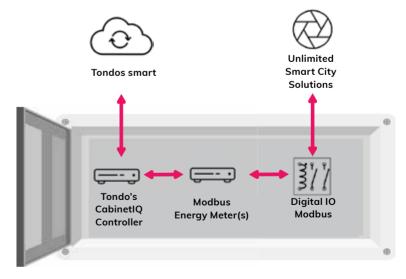- Modbus
  - RS485
  - Ethernet

## COMPATABILITY

- NO/NC contactors
- Breaker monitoring
- Relay (NO/NC)
- Virtually any Modbus device

## LISTINGS

- Israel EN 302 208
- UL94V-0Flameretardant
- UL,CE,FCC(in-process)
- RoHS

## WARRANTY

- Limited 5-year warranty

Tondos smart

Unlimited Smart City Solutions

Tondo's CabinetIQ Controller

Modbus Energy Meter(s)

Digital IO Modbus