Appendices

Hardware manual

www.pinetek-networks.com

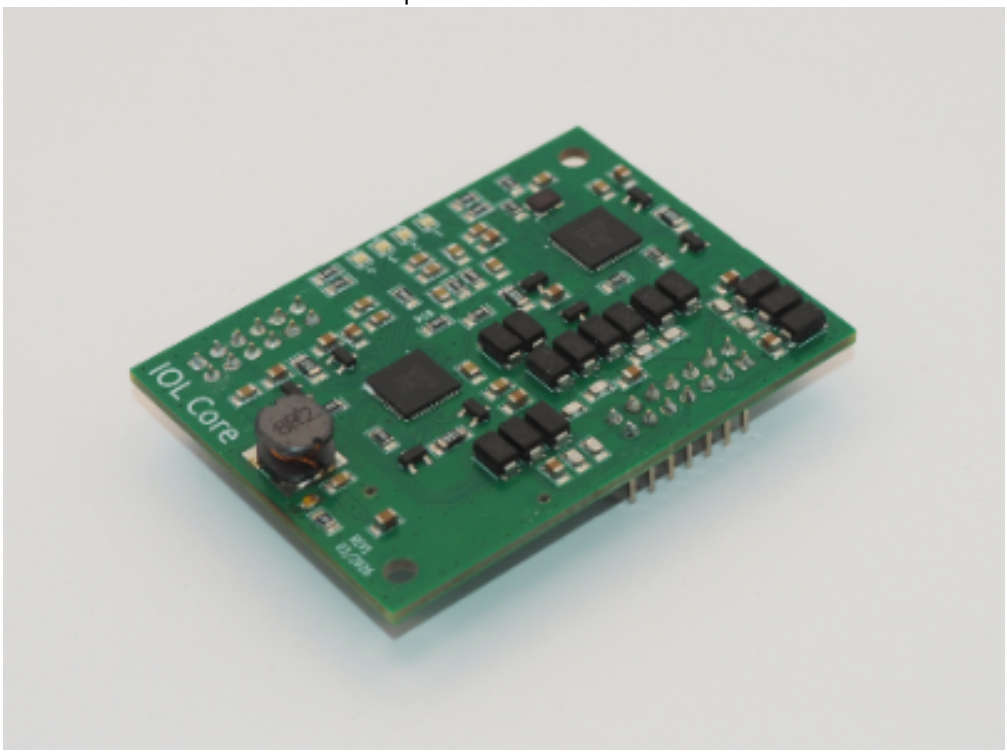


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Appendices

A. Glossary

Term	Definition
Availability	OEE factor: running time / (running time + unplanned downtime)
Bottleneck	The process stage whose throughput limits the whole line
Changeover	Setup/product-change phase before a production run
Cycle station	Machine monitored via energy-based cycle detection [PBX]
Defect / Reject	Part not meeting quality requirements; counted by the reject stage or corrected manually
Downtime reason	Category + reason classifying a Down period
Draining	Run-out phase: input stopped, line runs empty
Entitlement	A licensed feature on the Pinetek license (Core, Cloud Backup, AI Chat, SMTP)
Ideal cycle time	Theoretical time to produce one unit at full speed; basis of Performance
OEE	Overall Equipment Effectiveness = Availability × Performance × Quality
Pareto analysis	Ranking of causes by impact with cumulative percentage
Performance	OEE factor: (ideal cycle time × actual quantity) / running time
Pinebox	Pinetek field data-acquisition device; source of all machine signals [PBX]
Process stage	One counting point of the line, with role Input/Output/Defect/Intermediate
Product	Produced article, linked to a program, with part number and ideal cycle time
Production run	Continuous production of one product; unit of OEE calculation
Program	Line configuration: stages, counters, sensors, takt, detection parameters
Quality	OEE factor: good quantity / actual quantity
Scrap rate	Defect quantity / actual quantity
State event	Stored record of one contiguous period in a production state
Takt	Measured cycle/interval time from a Pinebox timer [PBX]
Target quantity	Planned quantity of a run, entered at changeover
Units per count	Multiplier from counter ticks to units (e.g. one tick = pack of 6)

B. State reference

State	Color	Entered by	Left by	OEE effect
Stopped	grey	Run end, drain complete	Start Changeover	outside any run
Changeover	purple	**Start Changeover** button	counting starts	not an availability loss
Running	green	counting detected	stall, slow-down, operator action	running time
Running Slow	orange	throughput drop	recovery or stall	running time; reduces Performance
Down	red	stage counter timeout	counting resumes	**unplanned downtime, reduces Availability**; reason required
Planned Stop	yellow	operator action	**Resume** button	planned; no Availability loss

State	Color	Entered by	Left by	OEE effect
Draining	blue	**Drain Line** button	output counter timeout → run ends	not an availability loss

C. Roles and permissions matrix

Function	Basic	Operator	Supervisor	Admin
Scoreboard	✓	✓	✓	✓
Production Timeline (run control, downtime reasons)	–	✓	✓	✓
Live Bottleneck Analysis	–	✓	✓	✓
Notifications	–	✓	✓	✓
Analysis (OEE History, Production, Bottleneck History, Downtime Pareto)	–	–	✓	✓
AI Assistant	–	–	✓	✓
Line Config (Program, Product, Counters, Cycle Stations, Sensors, Takt, Downtime)	–	–	✓	✓
System configuration, Backup, Users, SMTP, Version, License	–	–	–	✓
Reports (Templates, Blocks, Layout)	–	–	–	✓

D. Technical data

Item	Value
Web interface	`http://<device-ip>:8000`
Supported browsers	current Chrome, Edge, Firefox
Pinebox data services	port `18080` (counters, timers, cycles) [PBX]
Update manager	port `18090`
Database	MariaDB, local on the device
Timestamps	stored in UTC, displayed in the configured timezone
Languages	English, German (system-wide, incl. reports)
Report output	PDF (A4), optional e-mail dispatch via SMTP
Data export	Excel (.xlsx) from analysis tables
License check	Pinetek license server, once per 24 h, cached locally

E. Contact and support

Supplier information

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Data privacy

The device does not collect, store, or transmit data outside of the physical device, unless the user programs the device accordingly (AI feature, online backup, email; see sections in this manual).

Support

Support for **Pinetek Insight** is available through multiple channels:

- The Pinetek Knowledge Base (online manuals): doc.pinetek-networks.com
- Latest firmware, PDF manuals and other information: download.pinetek-networks.com/insight

For individual support, please use our support portal: support.pinetek-networks.com

