

5 Timer Engine

Application Manual

www.pinetek-networks.com

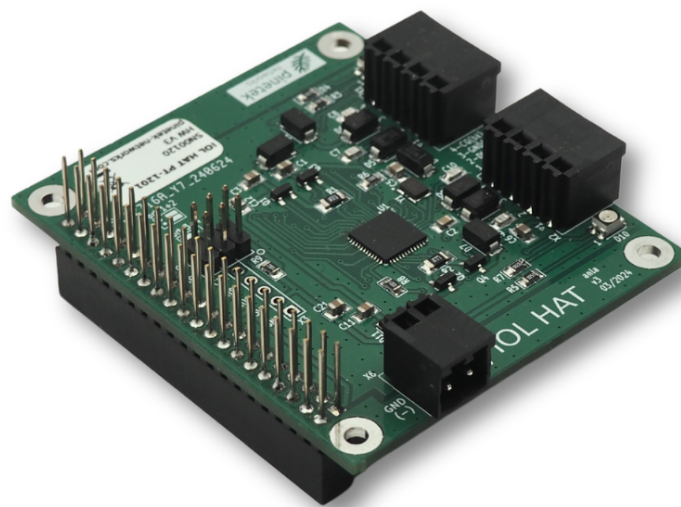


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5 Timer Engine

The Pinebox provides **8 timers** (indices 0..7). Each timer measures elapsed time between a **start event** and a **stop event**, both sourced from IO-Link process data. Statistics (count, min, max, average) accumulate until explicitly reset.

The timer engine must be explicitly started and stopped.

Timer Values

Timer Values

GET /timer/values

Returns measurement statistics for all 8 timers.

Query parameters

Parameter	Description
?reset=true	Atomically read all statistics and reset them to zero in a single operation

Response

```
{
  "timer0": {
    "count": 5,
    "min_ms": 102,
    "max_ms": 310,
    "average_ms": 201
  },
  "timer1": { "..."},
  "..."}
}
```

Field	Type	Description
count	int	Number of completed start→stop cycles
min_ms	int	Minimum measured duration in milliseconds
max_ms	int	Maximum measured duration in milliseconds
average_ms	int	Average duration in milliseconds

Reset Timer

POST /<num>/timer/reset

Resets statistics for timer <num> to zero (count, min, max, average).

Response: [Error envelope](#)

Timer Configuration

All Timer Configs

GET /timer/config

Returns configuration for all 8 timers in a single response.

Response

```
{
  "timer0": {
    "enabled": true,
    "label": "Cycle time",
    "start_port": 0,
    "start_pd_index": 1,
    "start_edge": "rising",
    "start_filter_ms": 5,
    "start_threshold": 0,
    "stop_port": 0,
    "stop_pd_index": 1,
    "stop_edge": "falling",
    "stop_filter_ms": 5,
    "stop_threshold": 0
  },
  "timer1": { "..."},
  "..."}
}
```

Field	Type	Description
enabled	bool	Whether this timer is active
label	string	Human-readable timer name
start_port	int (0-3)	IO-Link port for the start event
start_pd_index	int	PD-in variable index for the start event
start_edge	string	Edge direction for start: rising or falling
start_filter_ms	uint32	Debounce time for start event in milliseconds
start_threshold	number	Threshold value (for threshold-based start events)
stop_port	int (0-3)	IO-Link port for the stop event
stop_pd_index	int	PD-in variable index for the stop event
stop_edge	string	Edge direction for stop: rising or falling
stop_filter_ms	uint32	Debounce time for stop event in milliseconds
stop_threshold	number	Threshold value (for threshold-based stop events)

Get Timer Config

GET /<num>/timer/config/get

Returns configuration for a single timer <num>. Field structure is identical to one entry in timer/config.

Set Timer Config

POST /<num>/timer/config/set

Sets configuration for timer <num>. The request body uses the same fields as the config GET response.

Response: [Error envelope](#)

Engine Control

Start

GET /timer/start

Starts the timer engine. Timers begin evaluating IO-Link process data for start and stop events.

Response: [Error envelope](#)

Stop

GET /timer/stop

Stops the timer engine. Accumulated statistics are retained.

Response: [Error envelope](#)

Status

GET /timer/status

Returns the current run state of the timer engine.

Response

```
{ "running": true, "error": "none" }
```