

RELEASE 8.X
ITTIA DB IOT DATASHEET



Embed ITTIA DB to continuously gather real-time data, and only store what is important!

What Is ITTIA DB IoT?

Embedded real-time device data management and processing software SDK designed for monitoring, analyzing, and storing edge microcontroller (MCU) device real-time data. It is a low-footprint and self-managed database with rich features. ITTIA DB IoT offers fast ingestion of various data types including time series and relational data with high cardinality. It offers real-time data streaming for data in motion and optimization of queries for data at rest.

ITTIA DB IoT Benefits

- Silent embedded database
- Modular architecture
- Streaming
- Time-series
- Tables
- Small footprint
- Real-time
- Flexibility
- Speed
- Ease of development
- C/C++
- Security
- Real-time guarantees
- Scalable

Cross Platform

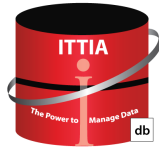
Arm Cortex-M33/M4/M7 - Arm Cortex-A - Arm Cortex-R

Any RTOS/Any Processors/Barebone platforms

Footprint

Feature	Program Flash (KiB)	RAM (KiB)
Streaming	235	57
Table storage	175	110
Time series storage	220	175
Streams + tables + time series	410	varies

ITTIA SDL is conformant to the principles of IEC/ISO 62443 part 4-1



Dual Streaming and Transactional Engines in ITTIA DB IoT

Key Features

- Cross-platform database engine
- Platform-agnostic data formats
- In-memory, on-disk, hybrid
- Concurrency
- Multithreading/multitasking
- Low latency, high throughput
- Time series optimizations
- Relational tables
- Binary data format
- Streaming real-time data
- Full storage encryption
- AES-128, AES-256

Data Types

- Integer, tinyint, smallint, bigint
- float32, float64, currency
- Unicode: UTF-8, UTF-16, UTF-32
- date, time, datetime, timestamp
- interval day to second, year to month
- Boolean, BLOB, varbinary

Standards

- Relational model foundation
- ACID transactions
- Isolation levels
- Rollback
- Savepoints
- Automatic crash recovery

Embedded Stream Processing

- Monitor real-time IoT Streams
- Real-time materialized views
- Continuous queries
- Filter expressions
- Time windows for downsampling
- Aggregate functions and grouping
- Temporal join

Database Specification

- Memory: 177-415 KiB program flash | 57-400 KiB RAM
- Maximum rows database: unlimited
- Maximum tables database: configurable
- Maximum indexes per database: configurable
- Maximum columns per table: 32,000
- Maximum time series columns per table: 1,600
- Maximum fields per index: 16,000
- Maximum open databases: configurable

We Don't Earn Trust in a Day. We Earn Trust Day-By-Day!

“Servomex’s selection of ITTIA DB for use within our next-generation solutions is based on a combination of ITTIA characteristics including technical capability/performance, breadth and ease of OS and middleware integration, value, commercial clarity and flexibility, and, most importantly, a demonstrable commitment to maintaining a long term mutually beneficial working relationship. ITTIA have consistently delivered on their promises.” CTO, Servomex, the world leader in gas analysis.

<https://www.ittia.com/products/ittia-db-iot>