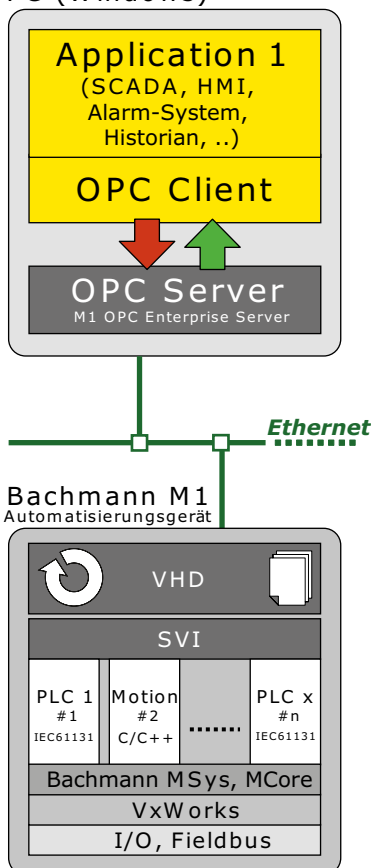## OPC Standard Server

(Openness, Productivity and Connectivity)

OPC defines a number of manufacturer-neutral software interfaces for automation (*www.opcfoundation.org*). With OPC data access actual states and values (online data) can be exchanged between controllers and software applications, such as visualizations, control systems or production data acquisition. As a pure software interface OPC runs on a PC or IPC under Windows and communicates with the M1 automation systems via Ethernet. Any standard-conformant OPC client will then either be operated on the PC of the server, or in the network and permit data exchange in both directions.

The integrated configuration tool supports the selective disclosure of any variables from the control system under a freely selectable item name for the clients. Configurations can either be created directly in the graphic interface, or transferred from other tools via the import/export function. Inversely a test client that is also integrated in the »OPC Configurator« configuration tool allows checking of the data exchange with underlying controllers without a completely set-up OPC client application.

- OPC conformant data server manufacturer-neutral interface
- Specifications – OPC Data Access 1.0, 2.04, 2.05 and 3.0
- Connection to M1 or CT via Ethernet
- Secure SSL connection to the controllers
- Up to 5 automation devices per server
- Up to 10,000 information points (items / field elements)
- Multi-processor support (depending on operating system)
- Graphic configuration tool
- Flat and hierarchical browsing
- Integrated test client (configuration tool)
- Operation under Microsoft Windows 7 (32 and 64 Bit), 8.1, 10

OPC Standard Server

Server

Protocol for client application	OPC data access
Supported specifications	V1.0, 2.04, 2.05a, 3.0
Data exchange direction	Bidirectional
Supported data types	Basis types — UINT1, UINT8, SINT8, UINT16, SINT16, UINT32, SINT32, REAL32, BOOL8, CHAR8, CHAR16, MIXED, REAL64, UINT64, SINT64
	Block types — all basis types; basis type BLK (e.g. CHAR8 + BLK = STRING)
Data type mapping	SVI on OPC (automatic)
Number of variables (items)	10,000 (individual variables or field elements)
Time stamp on the server	Yes
Time stamp from controller	Yes (per group one time item possible)
Quality attribute on the server	Yes
Quality attribute from controller	Yes (per group one quality item possible)
Display of connection loss	Yes (affected items show quality=BAD)
Server type	OUT_PROCESS
Operation without GUI	Yes
Flat browsing	Yes
Hierarchical browsing	Yes
Refresh rates	Dynamically adjustable per group (from 50 ms) [1]
Multi-processor support	Yes

Interfaces to the controller

Physical interface to the M1	Ethernet IEEE 802.3 (10/100 Mbit/s full-duplex)
Basis protocols	TCP/IP UDP/IP QSOAP
Protocol	SMI / VHD
Multiple connections per controller	Yes
Simultaneous queries	Yes
Number of connected controllers	5 (maximum)
Access protection	Yes, configurable
Supported security levels	0 to 4
Encryption	SSL (configurable)

Configuration

Graphic interface	Yes (OPC configurator)
Browsing of controllers	Yes
Browsing of controller variables (SVI)	Yes
Import/export	Yes (CSV)
Templates	Yes
Clones (with enumeration)	Yes
Restricted access	Yes (only on configured items)
Item names	OPC-side can be freely configured (»renaming«)
Item access rights	OPC side can be freely restricted
Integrated test client	Yes
Configurations can be saved	Yes
Access protection on configuration	Yes (different user levels)

OPC Standard Server	
Diagnostics	
Error logging	Yes (log file)
Debug mode	Yes (several can be set)
Diagnosis on items	Yes (static items)
Statistics on items	Yes (static items)
Installation	
Installation medium	CD ROM or network (See standard package M-Base and M-COM)
Installation can be automated (»silent«)	Yes
System prerequisites – server	
Computer	IBM-compatible PC (Intel x86 architecture)
Processor	Minimum: Intel Pentium 500 MHz or comparable (Windows 2000) Recommended: Intel Core2Duo or Core2Quad with >2 GHz
RAM	Minimum: 256 MB RAM (Windows 2000) Recommended: >1 GB RAM
Network card	At least 1x Ethernet 802.3
Hard disk	> 300 MB free
Graphic	1024 x 768 or better (only for configuration)
Input devices	Keyboard, 2-button mouse (only for configuration)
Operating system (OPC Server)	Windows 7 (32 and 64 Bit) Windows 8.1 Windows 10
Other software	Text editor or MS Excel recommended for external configuration
System prerequisites M1	
M1 automation devices	Series ME, MX, MPC, MPE, as well as CT/WT200 , CT/WT300 (achievable performance is type-dependent)
System software	MSys V2.11 or higher (for full function scope)