XCx 500

The Controller of the Future:

Ultrafast, Enormously Powerful, Unbelievable Verstile

The Controller

Compact Dimensions

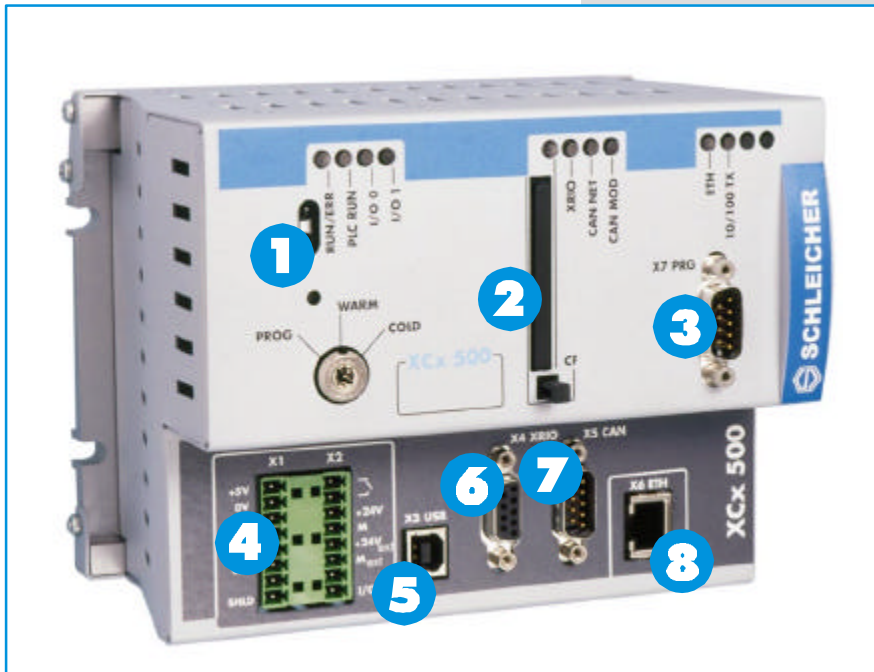High Performance

Variety of Interfaces

The PLC for the process

The Motion Controller for rapid Machines

The CNC for interpolated Movements

The RC for Handling Systems and robots

The Interfaces

1. IrDA
2. Compact Flash
3. RS 232
4. Power Interrupt RS 422
5. USB
6. RIO direct
7. CANopen
8. Ethernet

Features

Programming in IEC 61131

- Structured Text
- Sequential Function Chart (SFC)
- Ladder Diagramm
- Function Block Language
- Instruction List

Multitask PLC

- Cyclic tasks (min. 1ms, adjustable)
- Event-Tasks (Interrupt latency < 0,2 ms)
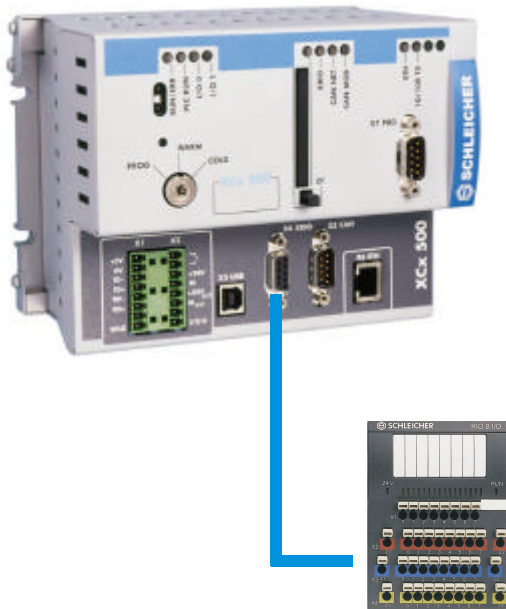
High Performance

- 0,1 ms per 1000 Instructions

Direct, serial I/O-Interface RIO direct

Transfer Rate

• 16 digital channels	1 module	< 0,1 ms
• 128 digital channels	8 modules	< 1,0 ms
• Maximum Rack Size (analogue and experts modules)	8 modules	< 2,5 ms

PLC reaction timing

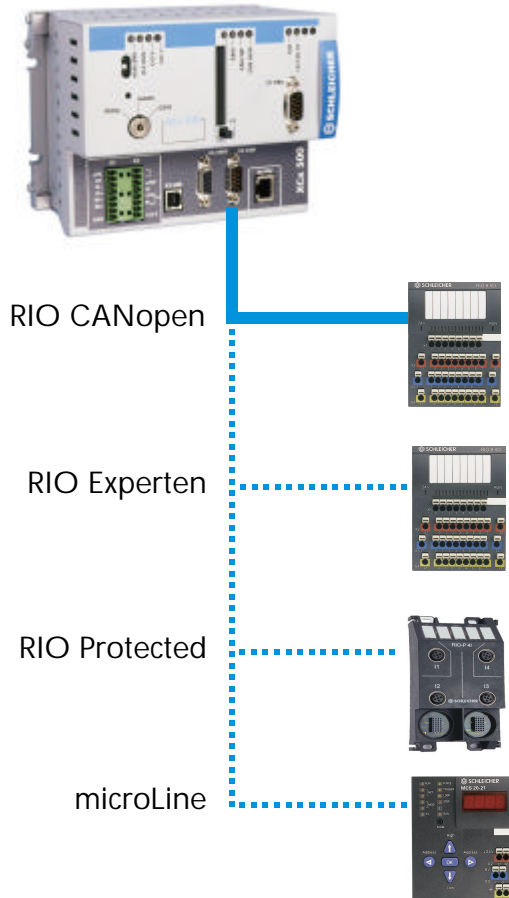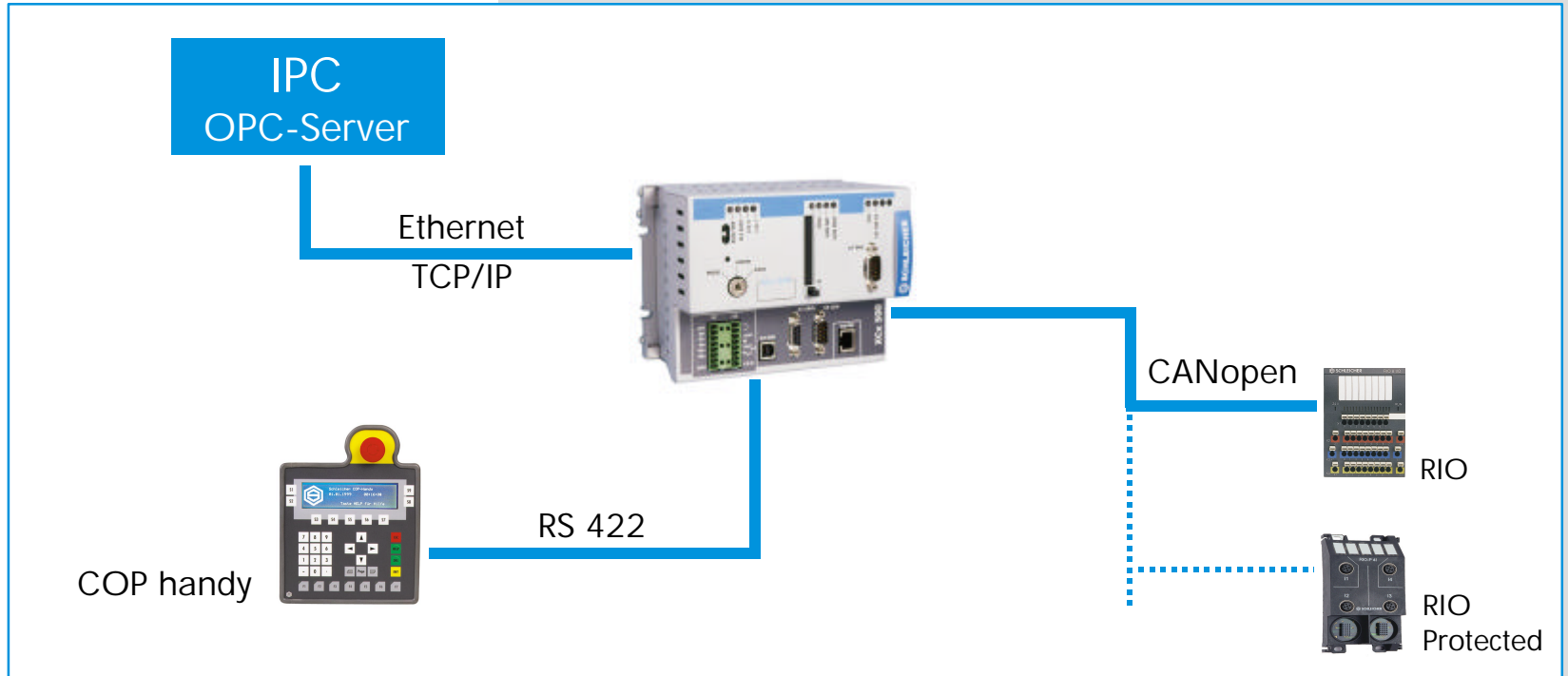|	
• cyclic Task	1 ms
• Eventtask (Interrupt)	~ 0,1 ms

I/O-Interface with CANopen

Advantages

- Standard Fieldbus, supported by vendors of
  - Valve Clusters
  - Drives
  - Operator Panels
  - Intelligent Devices (i.e. heat controllers)

- 32 nodes without Repeater
  approx. 8.000 I/Os

- I/O modules „RIO Protected" in IP 67 available
  for mounting outside the cabinet.

RIO CANopen

RIO Experten

RIO Protected

microLine

Operator Panels

IPC
OPC-Server

Ethernet
TCP/IP

CANopen

COP handy

RS 422

RIO

RIO
Protected

Networking
with global Variables

IPC	IPC
OPC-Server	OPC-Server

Ethernet
TCP/IP

CANopen   CANopen

RIO   RIO

RIO
Protected

RIO
Protected
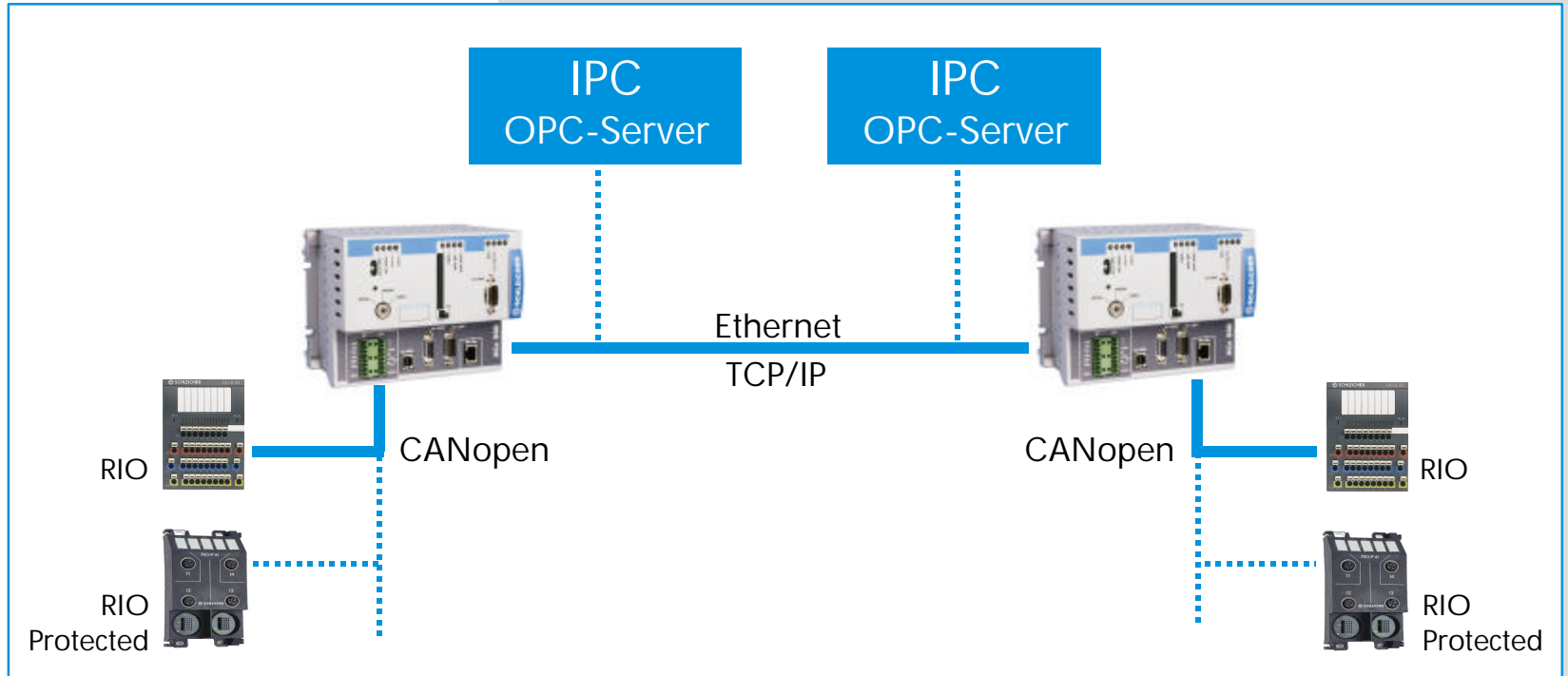
Drive interfaces for Motion Control and CNC

Standard

- CANopen   1 ms   4 axes
                      2 ms   8 axes

Options

± 10V analog
- SERCOS
- Profibus MC
- SLM   Control Techniques
- Mechatrolink   Yaskawa

CNC Functionality

- Virtual shaft & virtual cam

- Interpolation with more than 6 axles

- Simultaneous execution of independent NC-Programs (Multi Channel operation)

- Changing of axles between NC channels

- Switching of actors synchronized with movements

- Programming according to DIN 66025 (G-code)

- Circular, helical and free-form interpolation

- 3D Grinding cycles

- Optimized Robot movements

- Data reduction function

High Performance PLC/CNC Interface

- Synchronized PLC and CNC
  - communication without delay
  - switching synchronous with the movement
  - controlling each CNC function

- Open CNC by powerfull PLC intervention functionality

- Benefits of CNC functionality for various tasks beyond the scope of traditional CNCs: interpolation of any process set point variables synchronized with movements

Diagnosis Interface

- Alarms and messages by e-mail and SMS
    - global information directly
    - independent of service location
- All diagnostic information via web server
    - one kind of representation for all diagnostic devices
    - Ethernet for LAN and Internet
    - IR-Interface for Palmtop or Laptops
    - RS232 interface for Laptops
- Wireless diagnosis by IrDA with Palm and Handy
    - diagnostic device always available
    - no additional cable required