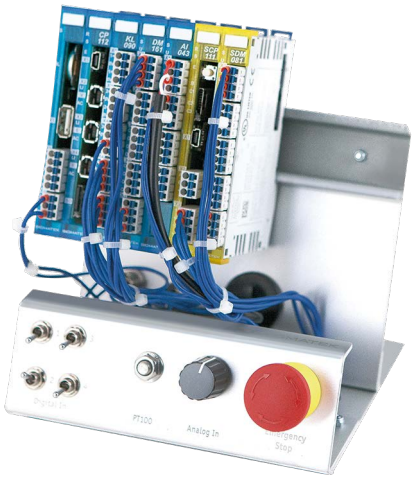
# Training System Basic Application
# TSY 021



The TSY 021 training system is an application assembly that is used for training. The complete PLC consists of a S-DIAS CPU, several I/O modules and several control elements to simulate various input and output signals. The VARAN bus system serves for the data exchange between the TSY 021 and the extension module motion TSY 041 rest. The Ethernet 2 interface serves for the data exchange between the TSY 021 and the HMI extension module TSY 031. The power for the assembly is supplied over a connection to mains voltage. Additionally a RJ45 network cable for establishing an online connection is part of the application.

## Performance Data

| | |
|---|---|
| Processor | EDGE2 Technology |
| Addressable I/O/P modules | VARAN Bus: 65,280<br>CAN participants: > 100<br>S-DIAS bus: 64 |
| Internal I/O | no |
| Internal cache | 512-kbyte L2 Cache |
| Internal program and data memory (DDR3 RAM) | 256-Mbyte |
| Internal remnant data memory | 256-kbyte SRAM (battery buffered) |
| Internal storage device | 512-Mbyte microSD card |
| Interfaces | 1x USB host 2.0 (high speed 480 Mbits/s)<br>1x USB device 1.1<br>2x Ethernet<br>1x VARAN Out (Manager) (maximum cable length: 100 m)<br>1x CAN<br>1x S-DIAS (with manager) |
| Status display | no |
| Status LEDs | yes |
| Real-time clock | yes (battery buffered) |

## Module Supply (Input)

| | | |
|---|---|---|
| Supply voltage | +5 V | |

## S-DIAS Bus Supply (Output)

| | | |
|---|---|---|
| Voltage supply on the S-DIAS bus | +5 V | |
| Current consumption on the S-DIAS bus (+5 V supply) | typically 400 mA | maximum 450 mA |

## Article Number and Miscellaneous

| | |
|---|---|
| Article number | 12-100-021 |
| Project backup | internally on the microSD card |

## Environmental Conditions

| | | |
|---|---|---|
| Storage temperature | -20 ... +85 °C | |
| Environmental temperature | 0 ... +55 °C | |
| Humidity | 0-95 %, non-condensing | |
| EMC resistance | in accordance with EN 61000-6-2 (industrial area) | |
| EMC noise generation | in accordance with EN 61000-6-4 (industrial area) | |
| Vibration resistance | EN 60068-2-6 | 3.5 mm from 5-8.4 Hz<br>1 g from 8.4-150 Hz |
| Shock resistance | EN 60068-2-27 | 15 g |
| Protection type | EN 60529 | IP20 |