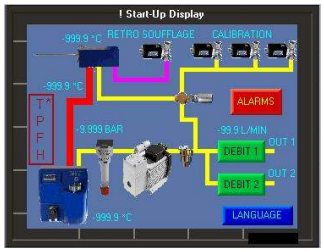
Ankersmid Touch-screen display PLC controller

ATD

ATD 240

ATD 320



* Desktop example picture

Application

The controller series **ATD** is a graphical touch screen terminal with an integrated PLC adapted for the supervision and control of systems where the participation of an operator (HMI) is necessary.
The controller type **ATD 240** with a 3,5" Touch-screen display and an integrated PLC has been designed to control a complete gas conditioning system including gas sample probes, gas coolers, heated lines etc.
The PLC can be fully integrated into a gas analysis system.
Its compact design ensures the ACM takes up only little space.
A compact version features analogue and digital resources already on board, integrating HMI and PLC in a single device.

In case expansion modules series **AEM** (for additional I/O) or other Modbus devices (controllers-actuators-sensors) are needed, the controller type **ATD 320** with a 5.7" Touch-screen display is required and will be connected via RS485 or RS232.

Description

The Ankersmid controller series ATD is compact and completely tailor-made programmed according the customer's requirements. Therefore this device is suitable for variable and continuous operation in all applications.
The innovative PLC with touch-screen display provides a comprehensive desktop with separate pop-up menus to check and control all parts of a conditioning system as well as external devices.
The PLC can operate as controller for coolers, sensors (e. g. flow, humidity, pressure) and several check valves, f. e. for zero- and calibration gases.
Furthermore the PLC is able to control external devices like heated sample lines and gas sample probes. Due to that fact external temperature controllers are no longer required for these devices.

A sample gas pump can be activated automatically by means of an excess temperature contact on the cooler. By using a digital flow sensor the flow rate can be checked and adjusted on the touch screen. A sample gas cooler can be operated by setting a free adjustable dew point.

- **Touch-screen display**
- **256 colours**
- **Integrated PLC**
- **Tailor-made and customized desktop programming**
- **Compact design**
- **ATD 240 I/O:**
  - 16 digital I / O
  - 4 Universal analogue inputs
  - 4 analogue out 0...10Volt
  - 2 serial RS232/RS485
- **ATD 320 I/O:**
  - 8 Inputs for external contacts
  - 1 General alarm output
  - 1 Programming/Communication port with RS232 interface
  - 1 communication port with RS485/RS422 interface
  - galvanic insulation
  - 1 communication port with RS232/RS485 interface
- **Universal operating by using optional expansion I/O modules (for ATD 320)**

Ankersmid Touch-screen display PLC controller

ATD 240

Technical data

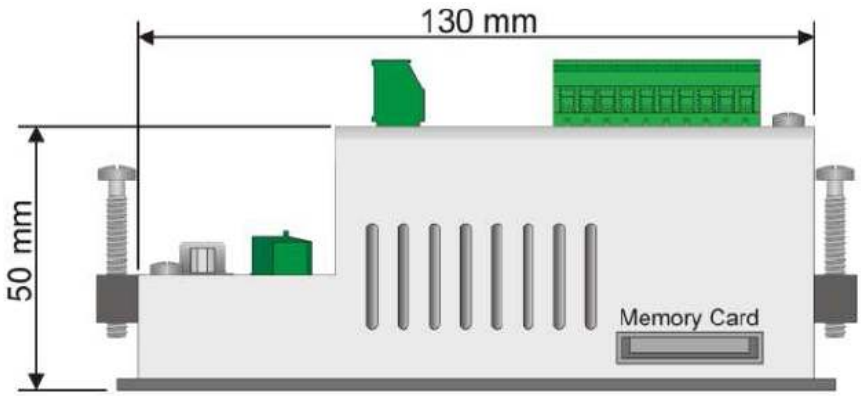
ATD 240 Inputs	
Analogue	4 Selectable for TC, K, J, S, R, T, E, PT100,PT1000, PT500, Ni100, NTC10K, (B 3435K), PTC1K (kty1000) 0/4..20 mA, 0/1..10 V
Digital	16 Selectable as inputs / outputs

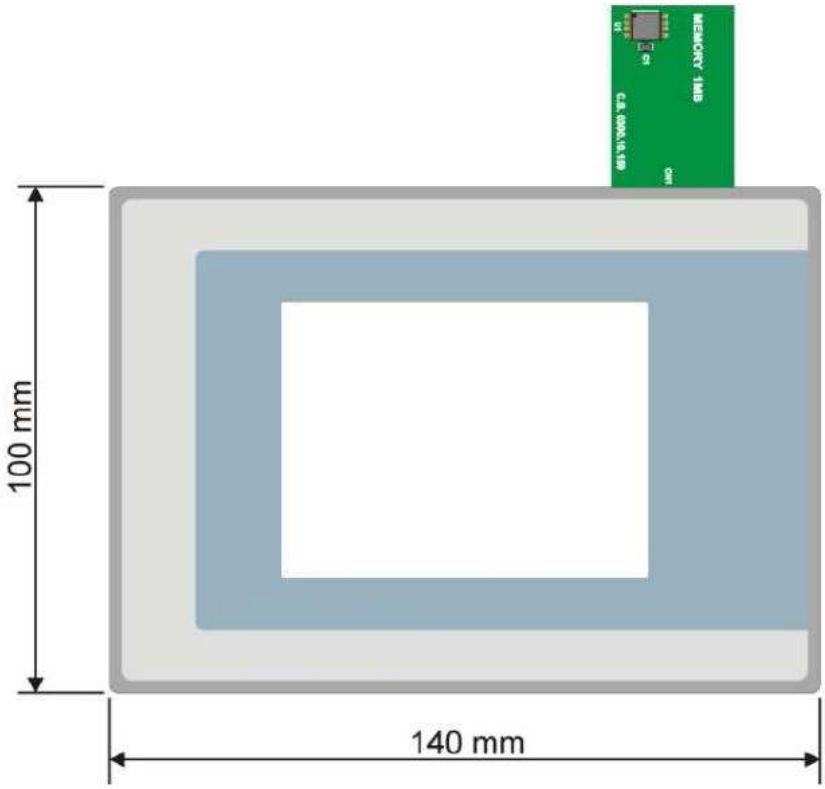
ATD 240 Outputs	
Analogue	4 outputs 0...10Volt
Digital	16 Selectable as static outputs 700mA or digital inputs
Serial ports	2 serial ports RS232/RS485

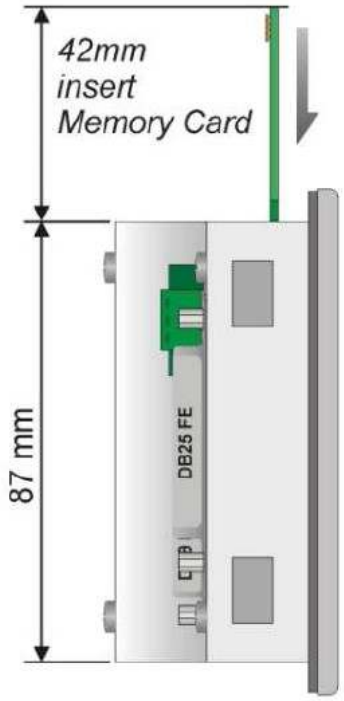
ATD 240 Main features	
Box	140x100 (front panel) x 65mm
Power supply	12...24Vac/Vdc ±15% 50/60 Hz
Consumption	8W
Display	Display Back-light LCD TFT 3,5", Integrated resistive Touch-screen TFT Dimensions: Active Area 3.5", 70.03(W)mm x 52.56(H)mm Resolution: 320x240 pixels, Colours: 256 (8bit) Importable Images: bitmap of 256 colours (.bmp)
Operating conditions	Temperature 0-45 °C, humidity 35..95 uR%
Material	Front panel: aluminum with polycarbonate coverage; Box: chromed steel
Weight	Approx. 690gr.
Sealing	IP54 (Front panel) , IP20 (Box and Terminal blocks)
Quick set-up options	SLOT Memory Card (MMC) for programs download (Ladder + graphics)

ATD 240 Software features	
Communication protocols	Modbus RTU master / slave; Free-Port mode for Modem protocols or proprietary devices
Memory	384Kbyte Flash for programming, 20Kbyte non-volatile Ram (6 months), 62Kbyte EEprom
Clock	Real-Time clock, Back-up battery
Analogue inputs control algorithms	P, PI, PID, PD

Dimensions







Ankersmid Touch-screen display PLC controller

ATD 320

Technical data

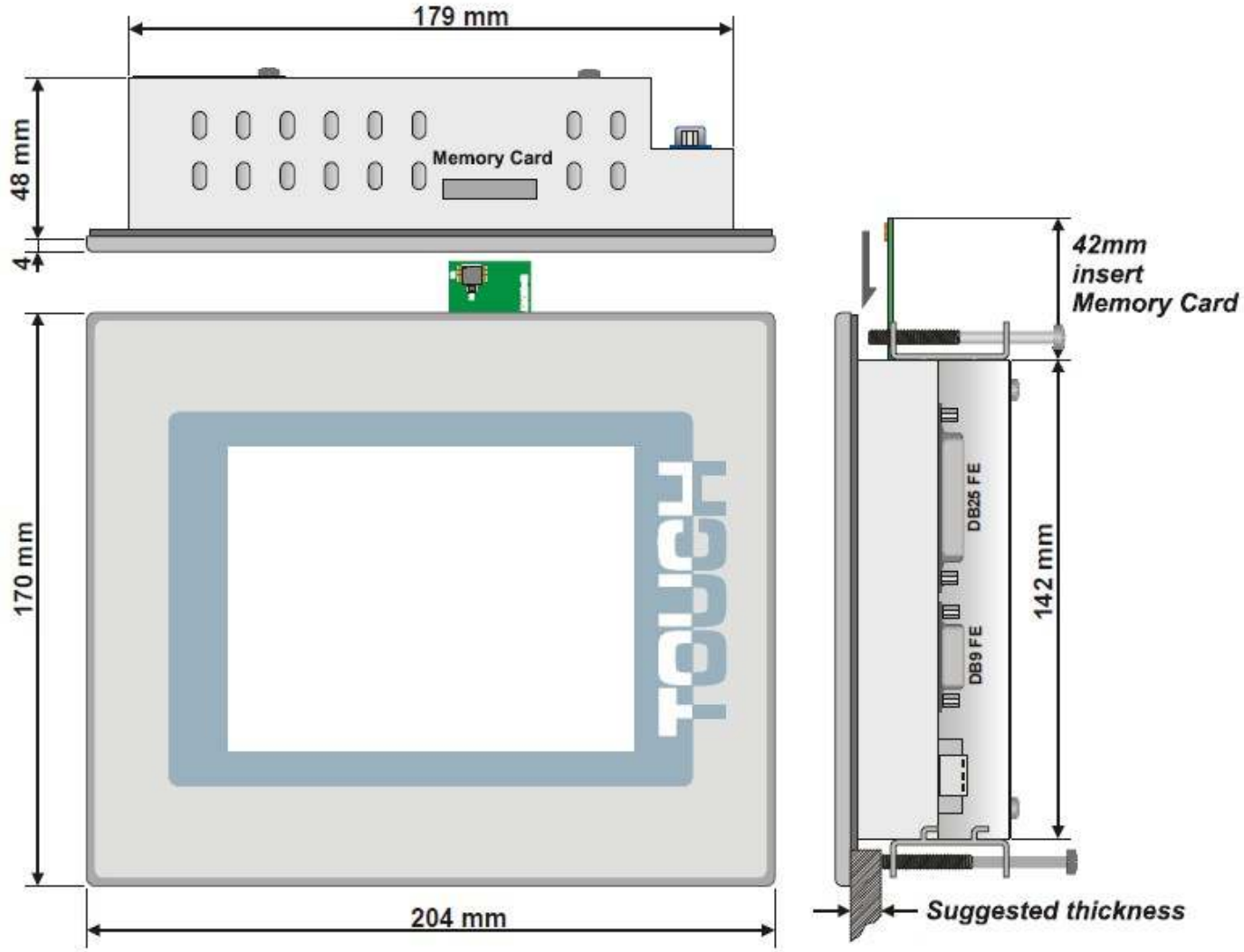
ATD 320 Inputs	
Digital	8 Inputs for external contacts on connector 25poles

ATD 320 Outputs	
Digital	1 General alarm output
Serial ports	1 Programming / Communication port with RS232 interface, 1 communication port with RS485/RS422 interface, galvanic insulation, 1 communication port with RS232/RS485 interface

ATD 320 Main features	
Box	204x170 (front panel) x 48
Power supply	12...24Vac/Vdc ±15% 50/60 Hz
Consumption	10W
Display	Display Back-light LCD TFT 5,7", Integrated resistive Touch-screen TFT Dimensions: Active Area 5.7", 115.18(W)mm x 86.38(H)mm Resolution: 320x240 pixels, Colors: 256 (8bit) Importable Images: bitmap of 256 colors (.bmp)
Operating conditions	Temperature 0-45 °C, humidity 35..95 uR%
Material	Front panel: aluminium with polycarbonate coverage Box: chromed steel
Weight	Approx. 1430gr.
Sealing	IP54 (Front panel) , IP20 (Box and Terminal blocks)
Quick set-up options	SLOT Memory Card (MMC) for programs download (Ladder + graphics)
Expansions	Communication modules ACM-1/2/3/4/5AD or other Modbus devices

ATD 320 Software features	
Operating logic functioning	Software for Ladder diagrams; 10Kword variables VW, 800 marker (logic relays), 128 bistables, 128 timer 16 bit, 64 up-down counters, mathematic and logic functions, rescale function, contact on bit
Graphic interface programming	By Ankersmid Sampling
Communication protocols	Modbus RTU Master / slave; Free-Port mode for Modem protocols or proprietary devices
Memory	384Kbyte Flash for programming, 20Kbyte non-volatile Ram (6 months), 62Kbyte EEprom
Clock	Real-Time clock, Back-up battery

Dimensions



Ankersmid I/O expansion module for ATD

ACM

Application

The digital expansion communication modules series **ACM** are conceived for acquisition and management of remote I/O and for expansion of networks relying on PLCs, PCs or HMIs. Multi-point RS485 for ModbusRTU or alterntively a CANbus forCANopen allow the integration both with Ankersmid devices like ATD as well as instrumentation of other manufacturers (including EDS files for CANbus).

Five different versions offer various combinations of both digital and analogue I/O.

Ordering codes

ACM-1AD	16 Digital static outputs 24VDC 700mA MAX
ACM-2AD	16 Digital inputs PNP 24VDC 2 Analogue inputs 0...10V
ACM-3AD	8 Digital inputs PNP 24VDC 8 Static outputs 24VDC 700mA MAX
ACM-4AD	8 Digital inputs PNP 24VDC 8 relay outputs 5A-250V~ resistive load
ACM-5AD	4 Analogue inputs 2 Analogue outputs (0..10V or 4..20mA)

Ankersmid I/O expansion module for ATD

AEM

Technical data

AEM Chracteristics	
Inputs	**AEM-2AD, AEM-3AD, AEM-4AD** Digital Inputs PNP 24VDC
	AEM-5AD Inputs Configurable via software. Thermo-couples: type K,S,R,J; automatic compensation of cold junction from 0°C to 50°C. Thermo-resistance: PT100, PT500, PT1000, NI100, PTC1K, NTC10K (β 3435K) Linear: 0-10V, 0-20 or 4-20mA, 0-40mV Potentiometers: 6KΩ, 1506KΩ
Outputs	**AEM-1AD, AEM-3AD** Static outputs: 24VDC – 700mA max Each output can give 700mA, max consumption 4A
	AEM-4AD 8 relays: contacts 5A-250V~ resistive load
	AEM-5AD 2 linear 0-10V or 4-20mA 0-10V: resolution 7680 points. 4-20mA: resolution 6500 points

AEM Main features	
Box	Standard DIN43880 90 x 71 x 58 (H) mm with DIN RAIL mounting fitting EN50022
Power supply	12...24Vac/Vdc ±15% 50/60 Hz
Consumption	2 - 4W
Operating conditions	Temperature 0-45 °C, humidity 35..95 uR%
Material	Noryl UL 94 V-0
Weight	Approx. 255gr.
Sealing	IP30 (Box)
Dimensions	70x90mm(frontal)x53mm

AEM Software features	
Communication protocols	Modbus RTU / CANopen