SIGMATEK

HUMAN MACHINE INTERFACES

EN

CONTENTS

For the human-machine interface, the following applies: it should be modern, clear and above all, user-friendly.

HMI PHILOSOPHY

Depending on the scope and complexity of your application, you can choose between operating, control and mobile panels – naturally, with different display sizes.

In view of networked, intelligent factories, we focus on flexible two and multi-CPU solutions. Meaning a separation between visualization, sequence and motion control. Our operating panels with single or multi-touch screen form, combined with the compact S-DIAS control and I/O system, an efficient, high-performance solution for adaptive production machines and systems 4.0.

The all-in-one control panels with integrated control and single touch screen are an economic alternative for medium-complexity applications.

Our mobile panels provide you with high freedom of movement for operating and monitoring directly on-site – with cable or wireless.

All SIGMATEK HMIs are produced in Austria. Before our panels are delivered, they are fully tested to ensure the highest quality.

GET IN MULTI-TOUCH

OPERATING COMFORT MEETS „ZEITGEIST“

Multi-touch operating panels give machines and systems a modern face and enable smart operating concepts, which provide a positive user experience.

In the new multi-touch HMIs from SIGMATEK, projective capacitive touch technology (PCT) is used, by which the sensors are protected on the back of the robust, solid glass front (IP65 protection).

The projective capacitive touch technology enables intuitive operation with multi-finger input, which can be used for more Safety in handling machines and equipment. For example, when two buttons must be pressed at the same time. Input is even possible with thin gloves.

Widescreen: Everything in View

For demanding and modern visualizations, the HMIs of the ModularWide series are the right choice. The widescreen format provides great clarity and freedom when configuring operating elements and contents. Various information can be structured on the displays and shown in high resolution. The thin HMIs are available in five display sizes from 10.1 to 21.5 inches. Whether in vertical or horizontal format – the widescreen panels are equipped for any situation.

Highest Flexibility

The modular construction of the series allows exact adjustment of performance and display size to your individual wishes. The ModularWide HMIs can be optionally equipped with an attachable CPU unit (ETT) or HMI-Link unit (TAE). The CPU units are available with EDGE2 Technology processor or for higher requirements with x86 processor. With the HMI-Link unit, the operating panel can be located up to 100 m away from the control cabinet PC.

10,1 inches	1280 x 800 px
12,1 inches	1280 x 800 px
15,6 inches	1366 x 768 px
18,5 inches	1366 x 768 px
21,5 inches	1920 x 1080 px

The ModularWide panels are available in five display diagonals from 10.1 to 21.5 inches.

HOT FACTS

MODERN
projective capacitive multi-touch (PCT technology), wide screen

FLEXIBLE
with an attachable CPU or HMI-Link unit

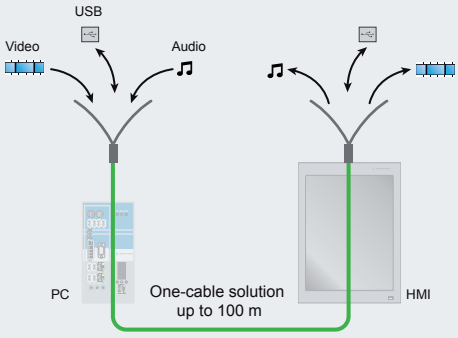
OPEN
simple system integration thanks to many interfaces, OPC UA connectivity

Flexibility: Whether EDGE2 Technology, x86 processor or HMI-Link unit, the HMIs can be easily upgraded when installed.

The widescreen panels cut a good figure in both portrait and landscape format.

OPC UA

All SIGMATEK operating panels with a processor support OPC UA communication. The OPC UA server, as well as the client function can be used to connect a higher-level system or exchange data with controls from third-party manufacturers.



HMI-LINK: REMOTE SOLUTIONS FOR UP TO 100 M

One cable, more power and long distances – those are the advantages of HMI-Link technology, which was developed for remote solutions. With a standard Cat5e or Cat6 cable, video (full HD), audio and USB signals can be transmitted up to 100 meters between operating panels and the industrial PCs from the 400 series free of loss.

HMI-Link is based on a pure hardware solution and is operating system-independent. The HMI-Link panels have no internal main processor and are therefore more mechanically robust and economic. A possible increase of computing power occurs in the control unit in the cabinet.

HOT FACTS

MODERN
projective capacitive multi-touch (PCT technology)

OPEN
with standard interfaces such as Ethernet, CAN or USB, as well as OPC UA connectivity

POWERFUL
with EDGE2 Technology dual-core processor

MULTI-TOUCH IN 4:3 FORMAT

MODERN AND WITH ADDED VALUE

With the high-performance HMIs in 4:3 format, demanding visualization tasks can be implemented comfortably and efficiently.

The ETT multi-touch panels in classic 4:3 format enable intuitive gesture and multi-finger operation.

Equipped with an ARM-based EDGE2 Technology dual-core processor, the ETT panels provide high performance with low power usage and do not require a cooling fan. 512 MB of DDR RAM for internal program and data storage, a 512-MB microSD memory for recipe and alarm management, data logging, as well as a 3D graphic accelerator are included in the standard configuration.

The multi-touch HMIs therefore cut a brilliant figure even with complex operating interfaces. Multi-finger input is even possible with thin gloves.

Streamlined

Currently there are five ETT display sizes in 4:3 format – from 8.4 to 19 inches. Thinly constructed with an installation depth of only 48 mm, the panels can be mounted directly on the machine, an operating console or integrated into the control cabinet.

ETT 0833	**8,4 inches**	800 x 600 px
ETT 1033	**10,4 inches**	1024 x 768 px
ETT 1233	**12,1 inches**	1024 x 768 px
ETT 1533	**15 inches**	1024 x 768 px
ETT 1933	**19 inches**	1280 x 1024 px

The ETT panels with optional logo-backlighting give your machines a modern look.

The ETT multi-touch panels make an impression with industrial PCT technology and great color brilliance. They are the right choice for demanding, modern visualization concepts.

With the ETT panels, the interfaces are located on the bottom. The Safety Input Box SIB 061, with 6 digital Safety inputs for decentralized reading of up to 3 command and signaling devices (2-channel), can be simply mounted onto the back of the ETT.

ETTs Easily Find a Connection

The interfaces are selected to ensure that the HMIs fit in practically any machine and system configuration: 2x Ethernet, 2x USB 2.0, 1x USB-OTG (On-the-Go) and 1x CAN-Bus. 8 digital in and outputs each are also on board, which can be used for command and signaling devices such as signal towers and operating mode switches.

Software Speaks Multi-touch

The ETT panels are delivered with a Linux-based real-time operating system and the object-oriented development tool LASAL, which is well equipped for the creation of intuitive multi-touch applications.

LOGO BACKLIGHTING WITH ADDED VALUE

The ETT multi-touch panels in 4:3 format have an elegant frameless design. Optionally, it is possible to laser on your company logo and display it with color backlighting. The panel can therefore be perfectly integrated into the corporate design of the machine or system. The logo backlighting can be activated via the application in any color (RGB).

An application-specific function can be created to make the backlit logo blink or display in a different color in the event of an error – a smart distinguishing feature with added value.

The optional logo backlighting can be set in any color via the software.

TWO- AND MULTI-CPU SOLUTIONS

FIT FOR THE CHALLENGE OF INDUSTRY 4.0

With Smart Factories and Industry 4.0 in sight, we focus – especially for complex applications – on modular, decentralized control solutions that make your machines future-proof.

With a single-CPU solution, the danger exists that in the course of its life cycle, the CPU may reach its performance limits as application are expanded. Through a clean separation of sequence control and visualization, you are holding reins.

Modular into the Future

With modular, decentralized automation solutions, the computing power can be scaled as required. The system can be flexibly expanded and adapted to new requirements. In SIGMATEK standard solutions, economic ARM-based processors are used so that the price of the multi-CPU solution is comparable to that of a single-CPU solution and superior in terms of flexibility.

Software as a Success Factor

LASAL, our object-oriented engineering tool, combines the most modern programming technology with high efficiency and supports the OPC UA communication protocol. Manufacturer and platform-independent data exchange in an intelligent control network of machines and systems is therewith ensured. Object orientation simplifies the modularization and reusability of the software enormously and provides maximum clarity. The work of creating the software – also for software maintenance especially – is minimized.

Data Flow Redefined

If several distributed machines and system components should interact with one another, the data flow between the networked control intelligences must be perfectly managed. In the LASAL engineering environment, the "Machine Manager" is therefore responsible. It enables the clearly organized display of individual software projects in a machine or system and regulates the communication of distributed intelligences: Who can exchange which data with whom. Data exchange with external installation components and the connection of managing systems can also be clearly implemented with the help of the Machine Manager.

HOT FACTS

FLEXIBLE
computing power can be scaled and expanded specific to requirements of the application

OPEN
manufacturer and platform-independent data exchange via OPC UA

MODULAR BUT FULLY INTEGRATED
one software suite for all automation tasks

OUR CLASSICS

OPERATING PANELS WITH RESISTIVE TOUCH SCREENS

While developing our resistive operating panels, we focused on a compact design and usability.

The selection of our operating panels, which are always equipped with high-resolution, resistive TFT color touch screens range from 3.5-inch small format to 19 inches in portrait format. Interfaces such as Ethernet, CAN, USB, HMI-Link, display port and RS232 ensure that the operating panels find the right connection.

For special environmental conditions and industry-specific requirements (food processing and pharmaceutical industry), the right solution is also available. Customer-specific panel configurations are possible – from special front foils to individual HMI solutions.

Comfortable Extras

For extensive visualization tasks, operating panels with wide screen and EDGE2 Technology processors are available that provide the user with extra operating comfort. All panels are, of course, fanless and generally wear-free.

HOT FACTS

VERSATILITY
in sizes and interfaces

COMFORTABLE
simple screen design with the all-in-one engineering tool LASAL

ADAPTABLE
the right operating panel for any task – customer-specific configurations also possible

CONTROL PANELS

CONTROL CPU IS ON BOARD

The ETV control panels are compact all-rounders. They save space in the cabinet, since the control is integrated in the HMI and can be comfortably programmed.

Control, visualization and operation in one thin device – the all-in-one control panels with integrated CPU and resistive color touch screen are an efficient and economical solution for medium-complexity applications. With all-in-one panels of the ETV series as a central control unit, flexible expansion of the application is limited.

With our fanless ETV control panels, low-loss EDGE Technology processors (800 MHz) are used and 8 I/Os are already integrated. The all-in-one panels are available with 5.7, 8.4 and 12.1-inch touch screen diagonals.

Through the integrated real-time Ethernet VARAN interface, very fast data transfer is ensured. Our control panels have numerous standard interfaces such as Ethernet, CAN bus and USB, which are located at the bottom and enable comfortable integration into the machine architecture.

Consistent Engineering

For programming and configuration, a consistent engineering tool is provided with LASAL that simplifies the development of applications.

HOT FACTS

ECONOMIC
control and visualization combined in one device

EFFICIENT
several interfaces, 8 I/Os already integrated, maintenance-free

SIMPLE
one engineering tool for control and visualization

HOT FACTS

OPERATING FREEDOM
with cable or wireless (WLAN)

WORK FATIGUE-FREE
ergonomic design and
low weight (950 –1,350 g)

RELIABLE OPERATION
Safety elements integrated

MOBILE PANELS
FREEDOM DIRECTLY ON-SITE

If operating and monitoring demands mobility, our handheld operating panels are the right choice.

Equipped with an 8.4, 10.1 or 10.4-inch color touch display, the mobile HMIs offer the ability to intervene directly on site. The compact panels with their robust housing concept are available in different configurations.

- HBG panels: for classic operating and monitoring with integrated HMI-Link (loss-free data transfer up to a 100 m distance).

- HGT panels: are equipped with EDGE2 Technology processor and interfaces such as VARAN, Ethernet and USB.

Both panel series have a 3-stage confirmation button, emergency stop button and key switch, so that nothing stands in the way of the safe operation of robots, machines or systems.

Innovative: With WLAN & Safety

The wireless WLAN panel HGW 1033 with 10.1 inch multi-touch screen brings a new measure of operating freedom. It is equipped with an EDGE2 Technology processor and despite the integrated battery pack weighs only 1,350 g. The wireless HGW family offers a wide range of variants: With or without Safety functions, with or without encoders at the front, in portrait or landscape format.

Lightweight and with an ergonomically designed handle, all our mobile HMIs lie comfortably in the hand.

The wireless operating panel HGW 1033 with a multi-touch screen redefines operating freedom.

VISUALIZATION TOOLS
LASAL SCREEN & LASAL VISUDesigner
INTEGRATED, MODERN AND USER-FRIENDLY

HOT FACTS

COMFORTABLE
extensive graphic library

EFFICIENT
direct access to variables, visualization under Windows, alarm, event and recipe management

ANY NUMBER OF LANGUAGES
in one project, input of text information in ASCII and Unicode

With the web-based LASAL VISUDesigner, hardware-independent, high-performance visualizations can be easily configured. HTML5 specialists are provided with maximum freedom to individualize.

STRONG VISUALIZATION

The HMI tools SCREEN and the new web-based VISUDesigner are a part of the object-oriented engineering environment LASAL. Modern and complete visualizations can be created in the graphic editor without programming knowledge.

The LASAL VISUDesigner is based on current web technologies: HTML5, CSS3 and JavaScript. For you, the advantage is that the visualization is largely independent of the hardware and can run on a wide variety of HMIs. Logic and Optics are separated. In SCREEN and the VISUDesigner, pre-constructed templates and versatile operating, graphic and design elements enable you to comfortably create your visualization in your corporate design. In the LASAL VISUDesigner, scalable vector graphics (.svg) can be implemented.

Naturally, features such as alarm and event management, trend display, text and recipe management, as well as language and unit conversion are integrated into both HMI tools.

HMI PARADE

FROM 3.5 TO 23.8 INCHES

The TT 1533 is a 15-inch multi-touch operating panel for the swing arm mount.

The operating panel TAE 2343 with HMI-Link technology has a 23.8-inch multi-touch screen in portrait format.

An optional back-lightable logo gives the multi-touch ETTs in 4:3 format a unique touch. You can stage your corporate design perfectly.

For simple applications, all-in-one control panels from the ETV series are available. Small panels for operating and monitoring are already available from 3.5 inches.

3.5 & 5.7 INCHES

PRODUCT NAME	**ETT 312** | Operating Panel	**ETT 352** | Operating Panel	**ETT 353** | Operating Panel
TOUCH	resistive	resistive	resistive
PROCESSOR	–	–	–
INTERFACES	1x CAN	1x CAN	1x CAN
RESOLUTION	320 x 240 pixels	320 x 240 pixels	320 x 240 pixels
FRONT PROTECTION TYPE	IP65	IP30	IP54
FRONT MATERIAL	3 mm anodized aluminium	plastic	plastic
I/Os	–	–	–
SPECIALS	–	–	–
DIMENSIONS (WxHxD)	104 x 100 x 38 mm	93 x 93 x 12 mm	110 x 157 x 59 mm
ARTICLE NUMBER	01-230-312	01-230-352-1	01-230-353

PRODUCT NAME	**ETT 412** | Operating Panel	**ETV 0552** | Control Panel	**ETV 0555 / ETV 0551** | Control Panel
TOUCH	capacitive (single-touch)	resistive	resistive
PROCESSOR	–	EDGE Technology (1x 800 MHz)	EDGE Technology (1x 800 MHz)
INTERFACES	1x CAN	1x Ethernet, 1x VARAN, 1x CAN, 1x USB 2.0, 1x USB 1.1	1x Ethernet, 1x VARAN, 1x CAN, 2x USB 2.0, 1x USB 1.1
RESOLUTION	480 x 272 pixels	640 x 480 pixels	640 x 480 pixels
FRONT PROTECTION TYPE	IP65	IP65	IP54
FRONT MATERIAL	3 mm anodized aluminium	3.5 mm anodized aluminium	3.5 mm anodized aluminium
I/Os	–	8/8	8/8
SPECIALS	wide screen	–	–
DIMENSIONS (WxHxD)	132 x 94 x 35.5 mm	180 x 135 x 40 mm	180 x 135 x 40 mm
ARTICLE NUMBER	01-230-412	12-230-0552	12-230-0555 silver / 12-230-0551 blue

7 INCHES

PRODUCT NAME	**ETT 731** | Operating Panel	**ETT 732** | Operating Panel	**ETT 771** | Operating Panel
TOUCH	resistive	capacitive (multi-touch PCT)	resistive
PROCESSOR	EDGE2 Technology (1x 800 MHz)	EDGE2 Technology (1x 800 MHz)	EDGE2 Technology (1x 800 MHz)
INTERFACES	1x Ethernet, 2x CAN, 2x USB 2.0, 1x RS232	1x Ethernet, 2x CAN, 1x USB 2.0, 1x RS232	1x Ethernet, 1x CAN, 1x USB-OTG, 1x RS232, 1x RS485/Modbus RTU
RESOLUTION	800 x 480 pixels	800 x 480 pixels	800 x 480 pixels
FRONT PROTECTION TYPE	IP54	IP54	IP54
FRONT MATERIAL	3 mm aluminium, black anodized	4 mm aluminium, 1 mm hardened glass front with black frame	3 mm plastic
I/Os	–	–	–
SPECIALS	wide screen	wide screen	wide screen, USB-OTG for servicing purposes
DIMENSIONS (WxHxD)	180 x 135 x 41 mm	184 x 139 x 42 mm	180 x 135 x 50 mm
ARTICLE NUMBER	01-230-731	01-230-732	01-230-771

PRODUCT NAME	**ETT 775** | Operating Panel
TOUCH	resistive
PROCESSOR	EDGE2 Technology (1x 800 MHz)
INTERFACES	1x Ethernet, 1x CAN, 1x USB 2.0, 1x USB 1.1, 1x RS232, 1x RS485/Modbus RTU, 1x TTY
RESOLUTION	800 x 480 pixels
FRONT PROTECTION TYPE	IP54
FRONT MATERIAL	3 mm aluminium
I/Os	–
SPECIALS	wide screen
DIMENSIONS (WxHxD)	180 x 135 x 50 mm
ARTICLE NUMBER	01-230-775



8.4 INCHES

PRODUCT NAME	**ETT 0833** | Operating Panel	**ETV 0851** | Control Panel	**ETV 0851-I** | Control Panel
TOUCH	capacitive (multi-touch PCT)	resistive	resistive
PROCESSOR	EDGE2 Technology (2x 800 MHz)	EDGE Technology (1x 800 MHz)	EDGE Technology (1x 800 MHz)
INTERFACES	2x Ethernet, 1x CAN, 2x USB 2.0, 1x USB-OTG	1x Ethernet, 1x VARAN, 1x CAN, 2x USB 2.0, 1x USB 1.1	1x Ethernet, 1x VARAN, 1x CAN, 1x USB 2.0, 1x USB 1.1
RESOLUTION	800 x 600 pixels	800 x 600 pixels	800 x 600 pixels
FRONT PROTECTION TYPE	IP65	IP54	IP65
FRONT MATERIAL	4 mm glass with black frame	3.5 mm anodized aluminium	3.5 mm anodized aluminium
I/Os	8/8	8/8	8/8
SPECIALS	optional logo backlighting	–	–
DIMENSIONS (WxHxD)	230 x 200 x 46 mm	240 x 200 x 41 mm	240 x 200 x 41 mm
ARTICLE NUMBER	01-230-0833	12-230-0851	12-230-0851-I



PRODUCT NAME	**ETV 0855** | Control Panel	**HGT 835** | Mobile Control Panel	**HBG 0811** | Mobile Operating Panel
TOUCH	resistive	resistive	resistive
PROCESSOR	EDGE Technology (1x 800 MHz)	EDGE2 Technology (2x 800 MHz)	–
INTERFACES	1x Ethernet, 1x VARAN, 1x CAN, 2x USB 2.0, 1x USB 1.1	1x Ethernet, 1x VARAN, 1x USB 2.0	1x USB 2.0, 1x HMI-Link
RESOLUTION	800 x 600 pixels	800 x 600 pixels	800 x 600 pixels
FRONT PROTECTION TYPE	IP54	IP54	IP54
FRONT MATERIAL	3.5 mm anodized aluminium	PC/ASA	PC/ASA
I/Os	8/8	–	–
SPECIALS	–	emergency stop, confirmation button, key switch	emergency stop, confirmation button, key switch
DIMENSIONS (WxHxD)	240 x 200 x 41 mm	217 x 188 x 72 mm	217 x 188 x 72 mm
ARTICLE NUMBER	12-230-0855	01-245-835	12-245-0811

10.1 INCHES

PRODUCT NAME	**HGT 1051** | Mobile Operating Panel	**HGW 1033** | Mobile WLAN Operating Panel	**ETT 1044** | ModularWide Panel x86
TOUCH	capacitive (multi-touch PCT)	capacitive (multi-touch PCT)	capacitive (multi-touch PCT)
PROCESSOR	EDGE2 Technology (2x 800 MHz)	EDGE2 Technology (2x 800 MHz)	Intel Celeron J4005 (2x 2.0 GHz)
INTERFACES	2x Ethernet, 1x USB 2.0	1x USB 2.0 Type C DRP, 1x USB 2.0	2x Ethernet, 4x USB 2.0, 1x display port
RESOLUTION	800 x 1280 pixels	800 x 1280 pixels	1280 x 800 pixels
FRONT PROTECTION TYPE	IP54	IP54	IP65
FRONT MATERIAL	PC/ASA	PC/ASA	glass/aluminium, black anodized
I/Os	–	–	–
SPECIALS	emergency stop, confirmation button, key switch	emergency stop, confirmation button, key switch	wide screen
DIMENSIONS (WxHxD)	226 x 264 x 76 mm	226 x 266 x 76 mm	271 x 180 x 82 mm
ARTICLE NUMBER / VARIANTS	01-245-1051	01-246-1033 without Safety / portrait 01-246-1033-01 without Safety / landscape 01-246-1033-3 with Safety 01-246-1033-32 with Safety / rotary encoders	x86 ETT 1044 | 01-230-1044 EDGE2 ETT 1034 | 01-230-1034 HMI-LINK TAE 1044 | 12-200-1044 Details see pages 26/27

10.4 INCHES

PRODUCT NAME	**ETT 1033** | Operating Panel	**HGT 1035** | Mobile Control Panel	**HBG 1011** | Mobile Operating Panel
TOUCH	capacitive (multi-touch PCT)	resistive	resistive
PROCESSOR	EDGE2 Technology (2x 800 MHz)	EDGE2 Technology (2x 800 MHz)	–
INTERFACES	2x Ethernet, 1x CAN, 2x USB 2.0, 1x USB-OTG	1x Ethernet, 1x VARAN, 1x USB 2.0	1x USB 2.0, 1x HMI-Link
RESOLUTION	1024 x 768 pixels (XGA)	1024 x 768 pixels	1024 x 768 pixels
FRONT PROTECTION TYPE	IP65	IP54	IP54
FRONT MATERIAL	4 mm glass with black frame	PC/ASA	PC/ASA
I/Os	8/8	–	–
SPECIALS	optional logo backlighting	emergency stop, confirmation button, key switch	emergency stop, confirmation button, key switch
DIMENSIONS (WxHxD)	279 x 233 x 49 mm	264 x 226 x 73 mm	264 x 226 x 73 mm
ARTICLE NUMBER	01-230-1033	01-245-1035	12-245-1011

12.1 INCHES

PRODUCT NAME	**ETT 1233** | Operating Panel	**ETT 1244** | ModularWide Panel x86	**ETV 1251** | Control Panel
TOUCH	capacitive (multi-touch PCT)	capacitive (multi-touch PCT)	resistive
PROCESSOR	EDGE2 Technology (2x 800 MHz)	Intel Celeron J4005 (2x 2.0 GHz)	EDGE Technology (1x 800 MHz)
INTERFACES	2x Ethernet, 1x CAN, 2x USB 2.0, 1x USB-OTG	2x Ethernet, 4x USB 2.0, 1x display port	1x Ethernet, 1x VARAN, 1x CAN, 2x USB 2.0, 1x USB 1.1
RESOLUTION	1024 x 768 pixels	1280 x 800 pixels	800 x 600 pixels
FRONT PROTECTION TYPE	IP65	IP65	IP54
FRONT MATERIAL	4 mm glass with black frame	glass/aluminium, black anodized	3.5 mm anodized aluminium
I/Os	8/8	–	8/8
SPECIALS	optional logo backlighting	wide screen	–
DIMENSIONS (WxHxD)	317 x 266 x 48 mm	306 x 217 x 86 mm	320 x 260 x 48 mm
ARTICLE NUMBER / VARIANTS	01-230-1233	x86 ETT 1244 | 01-230-1244 EDGE2 ETT 1234 | 01-230-1234 HMI-LINK TAE 1244 | 12-200-1244 Details see pages 26/27	12-230-1251

15 & 15.6 INCHES

PRODUCT NAME	**ETT 1533** | Operating Panel	**TT 1533** | Swing Arm Mount	**ETT 1544** | ModularWide Panel x86
TOUCH	capacitive (multi-touch PCT)	capacitive (multi-touch PCT)	capacitive (multi-touch PCT)
PROCESSOR	EDGE2 Technology (2x 800 MHz)	EDGE2 Technology (2x 800 MHz)	Intel Celeron J4005 (2x 2.0 GHz)
INTERFACES	2x Ethernet, 1x CAN, 2x USB 2.0, 1x USB-OTG	2x Ethernet, 1x CAN, 1x USB 2.0	2x Ethernet, 4x USB 2.0, 1x display port
RESOLUTION	1024 x 768 pixels	1024 x 768 pixels	1366 x 768 pixels
FRONT PROTECTION TYPE	IP65	IP54	IP65
FRONT MATERIAL	4 mm glass with black frame	glass/aluminium	glass/aluminium, black anodized
I/Os	8/8	–	–
SPECIALS	optional logo backlighting	swing arm mount (VESA 75)	wide screen
DIMENSIONS (WxHxD)	376 x 310 x 48 mm	358 x 342 x 48 mm	398 x 248 x 95 mm
ARTICLE NUMBER / VARIANTS	01-230-1533	01-270-1533	x86 ETT 1544 | 01-230-1544 EDGE2 ETT 1534 | 01-230-1534 HMI-LINK TAE 1544 | 12-200-1544 Details see pages 26/27

18.5 & 19 INCHES

PRODUCT NAME	**TT 1933-S** | Operating Panel	**ETT 1844** | ModularWide Panel x86	**ETT 1933** | Operating Panel
TOUCH	capacitive (multi-touch PCT)	capacitive (multi-touch PCT)	capacitive (multi-touch PCT)
PROCESSOR	EDGE2 Technology (2x 800 MHz)	Intel Celeron J4005 (2x 2.0 GHz)	EDGE2 Technology (2x 800 MHz)
INTERFACES	2x Ethernet, 3x USB 2.0	2x Ethernet, 4x USB 2.0, 1x display port	2x Ethernet, 1x CAN, 2x USB 2.0, 1x USB-OTG
RESOLUTION	1366 x 768 pixels	1366 x 768 pixels	1280 x 1024 pixels
FRONT PROTECTION TYPE	IP54	IP65	IP65
FRONT MATERIAL	glass/aluminium	glass/aluminium, black anodized	4 mm glass with black frame
I/Os	–	–	8/8
SPECIALS	swing arm mount (VESA 75/100)	wide screen	optional logo backlighting
DIMENSIONS (WxHxD)	472 x 345 x 44 mm	463 x 284 x 88 mm	448 x 384 x 44 mm
ARTICLE NUMBER / VARIANTS	01-270-1933-S	x86 ETT 1844 | 01-230-1844 EDGE2 ETT 1834 | 01-230-1834 HMI-LINK TAE 1844 | 12-200-1844 Details see pages 26/27	01-230-1933

PRODUCT NAME	**ETT 1962** | Operating Panel	**TAE 1921 / TAE 1941** | Operating Panel	**TAE 1931** | Operating Panel
TOUCH	resistive	resistive	resistive
PROCESSOR	EDGE2 Technology (2x 800 MHz)	–	–
INTERFACES	2x Ethernet, 2x USB 2.0	2x USB 2.0, 1x HMI-Link / HMI-Link G2	3x USB 2.0, 1x display port
RESOLUTION	1024 x 1280 pixels	1024 x 1280 pixels	1024 x 1280 pixels
FRONT PROTECTION TYPE	IP54	IP54	IP54
FRONT MATERIAL	PC/ASA	PC/ASA	PC/ASA
I/Os	–	–	–
SPECIALS	–	–	–
DIMENSIONS (WxHxD)	360 x 462 x 57 mm	360 x 462 x 57 mm	360 x 462 x 57 mm
ARTICLE NUMBER	01-230-1962	12-200-1921 / 12-200-1941	12-200-1931

21.5 & 23.8 INCHES

PRODUCT NAME	**ETT 2144** | ModularWide Panel x86	**TAE 2343** | Operating Panel
TOUCH	capacitive (multi-touch PCT)	capacitive (multi-touch PCT)
PROCESSOR	Intel Celeron J4005 (2x 2.0 GHz)	–
INTERFACES	2x Ethernet, 4x USB 2.0, 1x display port	1x USB 2.0, 1x HMI-Link G2, 1x RFID reader
RESOLUTION	1920 x 1080 pixels	1080 x 1920 pixels (full HD)
FRONT PROTECTION TYPE	IP65	IP54
FRONT MATERIAL	glass/aluminium, black anodized	glass
I/Os	–	–
SPECIALS	wide screen	swing arm mount (VESA 75)
DIMENSIONS (WxHxD)	534 x 326 x 88 mm	385 x 665 x 49 mm
ARTICLE NUMBER / VARIANTS	x86 ETT 2144 | 01-230-2144 EDGE2 ETT 2134 | 01-230-2134 HMI-LINK TAE 2144 | 12-200-2144 Details see pages 26/27	12-200-2343

	ARTICLE DESCRIPTION	BUILD-IN PANELS	MOUNTABLE PANELS	MOBILE PANELS	DISPLAY SIZE	DISPLAY RESOLUTION (PIXELS)	TOUCH	FRONT PROTECTION	PROCESSOR	CORES	CLOCK FREQUENCY	USB DEVICE	USB HOST FRONT	USB HOST BACK	ETHERNET	VARAN	CAN	HMI-LINK	DISPLAY PORT	S-DVI
OPERATING PANELS capacitive																				
	ETT 412	x			4.3"	480 x 272	capacitive	IP65	-	-	-						x			
	ETT 732	x			7"	800 x 480	capacitive	IP54	EDGE2	1	800 MHz			x	x		2x			
	ETT 0833	x			8.4"	800 x 600	capacitive	IP65	EDGE2	2	2x800 MHz	OTG		2x	2x		x			
	ETT 1033	x			10.4"	1024 x 768	capacitive	IP65	EDGE2	2	2x800 MHz	OTG		2x	2x		x			
	HGT 1051			x	10.1"	800 x 1280	capacitive	IP54	EDGE2	2	2x800 MHz			x	x					
	HGW 1033			x	10.1"	800 x 1280	capacitive	IP54	EDGE2	2	2x800 MHz	DRP		x						
	HGW 1033-01			x	10.1"	1280 x 800	capacitive	IP54	EDGE2	2	2x800 MHz	DRP		x						
	HGW 1033-3			x	10.1"	800 x 1280	capacitive	IP54	EDGE2	2	2x800 MHz	DRP		x						
	HGW 1033-32			x	10.1"	800 x 1280	capacitive	IP54	EDGE2	2	2x800 MHz	DRP		x						
	ETT 1233	x			12.1"	1024 x 768	capacitive	IP65	EDGE2	2	2x800 MHz	OTG		2x	2x		x			
	ETT 1533	x			15"	1024 x 768	capacitive	IP65	EDGE2	2	2x800 MHz	OTG		2x	2x		x			
	TT 1533		x		15"	1024 x 768	capacitive	IP54	EDGE2	2	2x800 MHz		2x	2x	2x		x			
	TT 1933-S		x		18.5"	1366 x 768	capacitive	IP65	EDGE2	2	2x800 MHz		2x	x	2x					
	ETT 1933	x			19"	1280 x 1024	capacitive	IP65	EDGE2	2	2x800 MHz	OTG		2x	2x		x			
	TAE 2343		x		23.8"	1080 x 1920	capacitive	IP54	-	-	-		x					x		
OPERATING PANELS resistive																				
	ETT 312	x			3.5"	320 x 240	resistive	IP65	-	-	-						x			
	ETT 352	x			3.5"	320 x 240	resistive	IP30	-	-	-						x			
	ETT 353		x		3.5"	320 x 240	resistive	IP54	-	-	-						x			
	ETT 731	x			7"	800 x 480	resistive	IP54	EDGE2	1	800 MHz		x	x	x		2x			
	ETT 771	x			7"	800 x 480	resistive	IP54	EDGE2	1	800 MHz	OTG	x		x		x			
	ETT 775	x			7"	800 x 480	resistive	IP54	EDGE2	1	800 MHz	x	x		x		x			
	HBG 0811			x	8.4"	800 x 600	resistive	IP54	-	-	-			x				x		
	HBG 1011			x	10.4"	1024 x 768	resistive	IP54	-	-	-			x				x		
	ETT 1962	x			19"	1024 x 1280	resistive	IP54	EDGE2	2	2x800 MHz		x	x	2x					
	TAE 1921	x			19"	1024 x 1280	resistive	IP54	-	-	-		x	x				x		
	TAE 1931	x			19"	1024 x 1280	resistive	IP54	-	-	-		x	2x					x	
	TAE 1941	x			19"	1024 x 1280	resistive	IP54	-	-	-		x	x				x		
CONTROL PANELS resistive																				
	ETV 0551	x			5.7"	640 x 480	resistive	IP54	EDGE	1	800 MHz	x	x	x	x	x	x			
	ETV 0552	x			5.7"	640 x 480	resistive	IP65	EDGE	1	800 MHz	x		x	x	x	x			
	ETV 0555	x			5.7"	640 x 480	resistive	IP54	EDGE	1	800 MHz	x	x	x	x	x	x			
	ETV 0851	x			8.4"	800 x 600	resistive	IP54	EDGE	1	800 MHz	x	x	x	x	x	x			
	ETV 0851-I	x			8.4"	800 x 600	resistive	IP65	EDGE	1	800 MHz	x		x	x	x	x			
	ETV 0855	x			8.4"	800 x 600	resistive	IP54	EDGE	1	800 MHz	x	x	x	x	x	x			
	ETV 1251	x			12.1"	800 x 600	resistive	IP54	EDGE	1	800 MHz	x	x	x	x	x	x			
	HGT 835			x	8.4"	800 x 600	resistive	IP54	EDGE2	2	2x800 MHz	x		x	x	x				
	HGT 1035			x	10.4"	1024 x 768	resistive	IP54	EDGE2	2	2x800 MHz	x		x	x	x				

RS232	RS485 / MODBUS RTU	INTERNAL I/O	RAM	FLASH (CF)	FLASH (MICROSD)	FLASH (NAND)	FLASH (NOR)	REMNANT DATA	CHARACTERISTICS	ARTICLE NUMBER	PAGE
			-	-	-	-	-	-	Wide screen	01-230-412	17
x			256 MB DDR3	-	-	512 MB	-	256 kB SRAM	Multi-touch	01-230-732	18
		x	512 MB DDR3	-	512 MB	-	-	512 kB SRAM	Optional logo backlighting	01-230-0833	19
		x	512 MB DDR3	-	512 MB	-	-	512 kB SRAM	Optional logo backlighting	01-230-1033	20
			512 MB DDR3	-	1 GB	-	-	128 kB MRAM	Emergency stop, confirmation button, key switch	01-245-1051	20
			2 GB DDR3	-	512 MB	-	-	512 kB MRAM	WLAN, portrait format	01-246-1033	20
			2 GB DDR3	-	512 MB	-	-	512 kB MRAM	WLAN, landscape format	01-246-1033-01	20
			2 GB DDR3	-	512 MB	-	-	512 kB MRAM	WLAN, emergency stop, confirmation button, key switch	01-246-1033-3	20
			2 GB DDR3	-	512 MB	-	-	512 kB MRAM	WLAN, emergency stop, confirmation button, key switch, rotary endcoders	01-246-1033-32	20
		x	512 MB DDR3	-	512 MB	-	-	512 kB SRAM	Optional logo backlighting	01-230-1233	21
		x	512 MB DDR3	-	512 MB	-	-	512 kB SRAM	Optional logo backlighting	01-230-1533	21
			512 MB DDR3	-	512 MB	-	-	512 kB MRAM	Swing arm mount	01-270-1533	21
			512 MB DDR3	-	1 GB	-	-	512 kB MRAM	Swing arm mount	01-270-1933-S	22
		x	512 MB DDR3	-	512 MB	-	-	512 kB SRAM	Optional logo backlighting	01-230-1933	22
			-	-	-	-	-	-	Swing arm mount, full HD, RFID reader	12-200-2343	23
			8 MB SDRAM	-	-	-	8 MB	-		01-230-312	17
			8 MB SDRAM	-	-	-	1 MB	-		01-230-352-1	17
			8 MB SDRAM	-	-	-	8 MB	-		01-230-353	17
x			256 MB DDR3	-	-	512 MB	-	256 kB SRAM	Wide screen	01-230-731	18
x	x		256 MB DDR3	-	512 MB	-	-	256 kB SRAM	Wide screen, USB-OTG for servicing purposes	01-230-771	18
x	x		256 MB DDR3	-	512 MB	-	-	256 kB SRAM	Wide screen	01-230-775	18
			-	-	-	-	-	-	Emergency stop, confirmation button, key switch	12-245-0811	19
			-	-	-	-	-	-	Emergency stop, confirmation button, key switch	12-245-1011	20
			512 MB DDR3	-	1 GB		-	512 kB SRAM		01-230-1962	22
			-	-	-	-	-	-		12-200-1921	22
			-	-	-	-	-	-		12-200-1931	22
			-	-	-	-	-	-		12-200-1941	22
		x	64 MB DDR2	-	512 MB	-	-	512 kB SRAM		12-230-0551	17
		x	64 MB DDR2	-	512 MB	-	-	512 kB SRAM		12-230-0552	17
		x	64 MB DDR2	-	512 MB	-	-	512 kB SRAM		12-230-0555	17
		x	64 MB DDR2	-	512 MB	-	-	512 kB SRAM		12-230-0851	19
		x	64 MB DDR2	-	512 MB	-	-	512 kB SRAM		12-230-0851-I	19
		x	64 MB DDR2	-	512 MB	-	-	512 kB SRAM		12-230-0855	19
		x	64 MB DDR2	-	512 MB	-	-	512 kB SRAM		12-230-1251	21
			256 MB DDR3	-	1 GB	-	-	128 kB MRAM	Emergency stop, confirmation button, key switch	01-245-835	19
			256 MB DDR3	-	1 GB	-	-	128 kB MRAM	Emergency stop, confirmation button, key switch	01-245-1035	20

	ARTICLE DESCRIPTION	BUILD-IN PANELS	MOUNTABLE PANELS	MOBILE PANELS	DISPLAY SIZE	DISPLAY RESOLUTION (PIXELS)	TOUCH	FRONT PROTECTION	PROCESSOR	CORES	CLOCK FREQUENCY	USB DEVICE	USB HOST FRONT	USB HOST BACK	ETHERNET	VARAN
EDGE2 WIDE SCREEN capacitive (multi-touch PCT)																
EDGE2	ETT 1034	x			10.1"	1280 x 800	capacitive	IP65	EDGE2	2	2x800 MHz	OTG		x	2x	
EDGE2	ETT 1234	x			12.1"	1280 x 800	capacitive	IP65	EDGE2	2	2x800 MHz	OTG		x	2x	
EDGE2	ETT 1534	x			15.6"	1366 x 768	capacitive	IP65	EDGE2	2	2x800 MHz	OTG		x	2x	
EDGE2	ETT 1834	x			18.5"	1366 x 768	capacitive	IP65	EDGE2	2	2x800 MHz	OTG		x	2x	
EDGE2	ETT 2134	x			21.5"	1920 x 1080	capacitive	IP65	EDGE2	2	2x800 MHz	OTG		x	2x	
x86 WIDE SCREEN capacitive (multi-touch PCT)																
x86	ETT 1044	x			10.1"	1280 x 800	capacitive	IP65	Intel Celeron	2	2x2.0 GHz			4x	2x	
x86	ETT 1244	x			12.1"	1280 x 800	capacitive	IP65	Intel Celeron	2	2x2.0 GHz			4x	2x	
x86	ETT 1544	x			15.6"	1366 x 768	capacitive	IP65	Intel Celeron	2	2x2.0 GHz			4x	2x	
x86	ETT 1844	x			18.5"	1366 x 768	capacitive	IP65	Intel Celeron	2	2x2.0 GHz			4x	2x	
x86	ETT 2144	x			21.5"	1920 x 1080	capacitive	IP65	Intel Celeron	2	2x2.0 GHz			4x	2x	
HMI-LINK WIDE SCREEN capacitive (multi-touch PCT)																
HMI-LINK	TAE 1044	x			10.1"	1280 x 800	capacitive	IP65	-	-	-			2x		
HMI-LINK	TAE 1244	x			12.1"	1280 x 800	capacitive	IP65	-	-	-			2x		
HMI-LINK	TAE 1544	x			15.6"	1366 x 768	capacitive	IP65	-	-	-			2x		
HMI-LINK	TAE 1844	x			18.5"	1366 x 768	capacitive	IP65	-	-	-			2x		
HMI-LINK	TAE 2144	x			21.5"	1920 x 1080	capacitive	IP65	-	-	-			2x		

SWING ARM

:he
ilable
sions

CAN	HMI-LINK	DISPLAY PORT	INTERNAL I/O	RAM	FLASH (MICROSD)	REMNANT DATA	CHARACTERISTICS	ARTICLE NUMBER	PAGE
				1 GB - 2 GB DDR3	1 GB	512 kB SRAM	Wide screen	01-230-1034	20
				1 GB - 2 GB DDR3	1 GB	512 kB SRAM	Wide screen	01-230-1234	21
				1 GB - 2 GB DDR3	1 GB	512 kB SRAM	Wide screen	01-230-1534	21
				1 GB - 2 GB DDR3	1 GB	512 kB SRAM	Wide screen	01-230-1834	22
				1 GB - 2 GB DDR3	1 GB	512 kB SRAM	Wide screen	01-230-2134	23
		x		2 GB DDR4	32 GB	-	Wide screen	01-230-1044	20
		x		2 GB DDR4	32 GB	-	Wide screen	01-230-1244	21
		x		2 GB DDR4	32 GB	-	Wide screen	01-230-1544	21
		x		2 GB DDR4	32 GB	-	Wide screen	01-230-1844	22
		x		2 GB DDR4	32 GB	-	Wide screen	01-230-2144	23
	x			-	-	-	Wide screen, HMI-Link G2	12-200-1044	20
	x			-	-	-	Wide screen, HMI-Link G2	12-200-1244	21
	x			-	-	-	Wide screen, HMI-Link G2	12-200-1544	21
	x			-	-	-	Wide screen, HMI-Link G2	12-200-1844	22
	x			-	-	-	Wide screen, HMI-Link G2	12-200-2144	23

INTERNATIONAL

AUSTRIA – CORPORATE HEADQUARTERS
SIGMATEK GmbH & Co KG
5112 Lamprechtshausen
Sigmatekstraße 1
Tel. +43 6274 43 21-0
Fax +43 6274 43 21-18
www.sigmatek-automation.com
office@sigmatek.at

CHINA
SIGMATEK Automation CO., Ltd
315040 Ningbo · Room 805,
Building A, No. 555, Jingjia Road
Tel. +86 574 87 75 30 85
Fax +86 574 87 75 30 65
www.sigmatek-automation.cn
office@sigmatek-automation.cn

GERMANY
SIGMATEK GMBH
76829 Landau
Marie-Curie-Straße 9
Tel. +49 6341 94 21-0
Fax +49 6341 94 21-21
www.sigmatek-automation.com
office@sigmatek.de

GREAT BRITAIN
SIGMATEK Automation UK Limited
Nottingham, NG7 2RF
Nottingham Science Park
10 Edison Village
Tel. +44 115 922 24 33
Fax +44 115 922 49 91
www.sigmatek-automation.co.uk
office@sigmatek-automation.co.uk

ITALY
SIGMATEK Ufficio di rappresentanza
Via Varisella, 17
10040 Givoletto (TO)
Tel. +39 347 66 28 749
www.sigmatek-automation.it
office@sigmatek.it

KOREA
SIGMATEK Automation Korea CO., Ltd
08500 Seoul · 4th floor, Digital Industrial Bldg 169-28
Gasan digital 2-ro Geumcheon-gu
Tel. +82 2 867 15 66
Fax +82 70 82 44 44 88
www.sigmatek-automation.kr
office@sigmatek-automation.kr

POLAND
SIGMATEK Representative Office
87-100 Toruń
ul. Kombajnowa 26
Tel. +48 791 54 97 77
www.sigmatek-automation.pl
office@sigmatek-automation.pl

SWITZERLAND
SIGMATEK Schweiz AG
8308 Illnau-Effretikon
Schmittestrasse 9
Tel. +41 52 354 50 50
Fax +41 52 354 50 51
www.sigmatek-automation.ch
office@sigmatek.ch

USA
SIGMATEK U.S. Automation, Inc.
44133 North Royalton, Ohio
10147 Royalton Rd., Suite N.
Tel. +1 440 582 12 66
Fax +1 440 582 14 76
www.sigmatek-automation.us
office@sigmatek.us

BELGIUM
SigmaControl B.V.
2992 LC Barendrecht
Tel. +32 329 770 07
www.sigmacontrol.eu
office@sigmacontrol.eu

DENMARK
SH GROUP A/S
5700 Svendborg
Tel. +45 6221 78 10
www.shgroup.dk
sigmatek@shgroup.dk

FINLAND
SARLIN Oy Ab
01610 Vantaa
Tel. +358 105 50 40 00
www.sarlin.com
asiakaspalvelu@sarlin.com

INDIA
SIGMA CONTROLS
411045 Pune
www.sigmatek-automation.in
office@sigmatek-automation.in

ITALY
SIGMA MOTION SRL
36075 Montecchio Maggiore (VI)
Tel. +39 0444 60 75 75
www.sigmamotion.it
info@sigmamotion.it

JAPAN
SUMITOMO HEAVY INDUSTRIES, LTD. –
Mechatronics Division
141-6025 Tokyo
Tel. +81 3 67 37 25 32
www.shi-mechatronics.jp
ryuji.nakajima@shi-g.com

NETHERLANDS
SigmaControl B.V.
2992 LC Barendrecht
Tel. +31 180 69 57 77
www.sigmacontrol.eu
office@sigmacontrol.eu

PORTUGAL
Plasdan Automation & Add-On Systems
2430-379 Marinha Grande
Tel. +351 244 57 21 10
www.plasdan.pt
info@plasdan.pt

SWEDEN
SIGBI Automation AB
254 64 Helsingborg
Tel. +46 42 654 00
www.sigmatek.se
info@sigmatek.se

SOUTH AFRICA
Anytech (PTY) Ltd.
2169
Tel. +27 11 708 19 92
www.anytech.co.za
erika.neethling@anytech.co.za

THAILAND
SCM Allianz Co. Ltd.
10400 Bangkok
Tel. +66 2 615 48 88
www.scma.co.th
contact@scma.co.th

TURKEY
Dedem Mekatronik
35477 Menderes – İzmir
Tel. +90 232 47 21 848
www.dedemmekatronik.com
satis@dedemmekatronik.com

www.sigmatek-automation.com