ARMBRUSTER
ENGINEERING

Consulting | Systems | Products

SMART WORK ASSISTANT

A server that has the entire ELAM system on board and a client that can display, control and document everything in the ELAM network.

Work the smart way.

THE INNOVATIVE SMART WORK ASSISTANT

Small, lightweight and powerful, the SWA revolutionises any kind of manual production through enhanced reliability. Regardless whether you want to pick, assemble, test or package, the SWA is always the perfect choice. The Smart Work Assistant guides employees step-by-step through the work, indicates the part bins, monitors the nut runners, and documents the results. If errors occur, the system stops.

The server is supplied to you ready to go, adapted to your specific task or as ELAM START so you can do-it-yourself – pre-configured. That provides you with the certainty of being able to guarantee reliable and cost-efficient assembly.

A great feeling, isn't it?

THE FOUR SWA MODELS

How the SWA works: the SWA server makes the ELAM services available in the network. With the SWA clients, the services can be called up on network workstations. Server and client devices are available with and without displays, which increases their potential uses. A separate ELAM licence is required for each server and client. An SWA client can also be connected to a virtual server.

SWA server with display, STAMA No. 3286
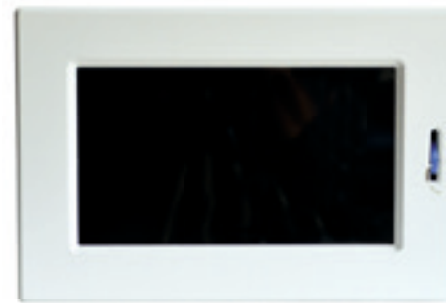
SWA client with display, STAMA No. 3288
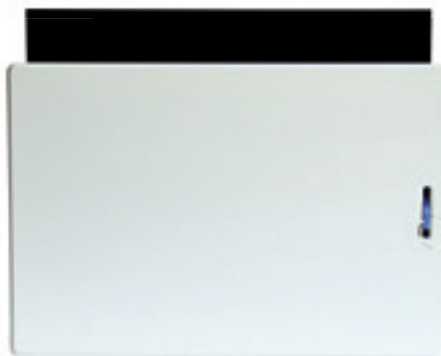
SWA server without display, STAMA No. 3287

SWA client without display, STAMA No. 3289

HOW TO PUT ELAM SUCCESSFULLY TO USE

The benefits of ELAM that produce efficient and reliable production.

1. Quick employee inductions

New employees follow a visual guide, complex procedures are depicted in a self-explanatory way, and the work steps are allocated to the SWA key.

2. Only correct parts are used for assembly

Reliable picking with Pick to Light; after taking the part, acknowledgement is completed by consciously confirming or also automatically, by sensor. No more need to search.

3. All variants under control

The different variants are managed in the ELAM system. Variants are called up with the scanner and execution can be traced on the web server – this allows One Piece Flow.

4. High precision in screw connections

Electric nut runner are connected directly through I/O or with Open Protocol, and the number of screws and the screwing values monitored.

5. Controlled production process

Checking operations during assembly prevents subsequent work and checklists support reliable assembly. The final check is integrated into the ELAM process.

6. Relocating production made easy

The relevant expertise is largely contained in the ELAM system, the language can be changed, and there is graphic support for image processing.

7. Quick and reliable record-keeping

All work steps, parts and process values are recorded live and saved in a product history file.

8. Lower costs

Quick employee inductions, no need for subsequent work, less warehouse stock, and automatic record-keeping all reduce costs:
No down-time – everything is in the ELAM system.
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CONNECTIONS ON THE SWA

COMPACT AND EFFICIENT

When we say compact we mean that the SWA has connections for all devices, equipment and tools – so no terminal box is necessary. This saves space and adds more flexibility to the production system.

Regardless whether server or client, with or without display, all 4 models come with powerful processors and the same connections. External touchscreen monitors are connected via HDMI. For LAN connections there is an ETH socket, which can be multiplied. For scanners and field devices there are 2 x 2 USB sockets, and the Pick to Light sensors are connected via the Neutrik sockets. Equipment and simple devices are connected with 10 digital I/Os each. A key system with three keys is always on board, and a robust mains adapter is included.

10 x Input
10 x Output

2 x USB 3.0
2 x USB 2.0

1 x HDMI

24 VDC

LAN
PTL

1

2

3

4

5
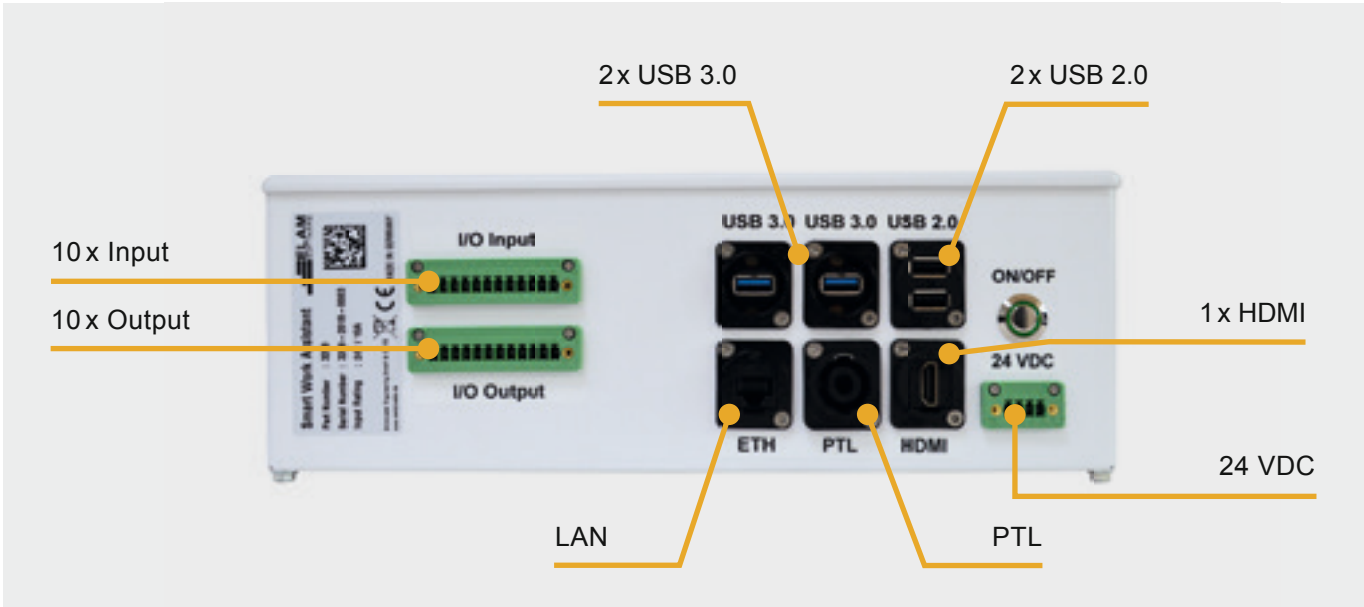
Connection options:

1 Mains cable
2 Monitor
3 Scanner
4 Printer
5 Pick to Light

QUICK AND EASY INSTALLATION AND SETUP

The compact SWA combines control technology with computer technology, which is appreciated by IT specialists and company electricians alike. Everything can be connected up with connectors – no special training necessary. The SWA can be made ready for operation with self-explanatory quick-step instructions.

Easy assembly
Mechanical VESA mount and SWA quick-change mechanism ensure quick mounting.

Easy to put into operation
Connect 230 volt / 24 volt mains adapter to SWA, and scanner to USB port. Switch on and get started.

Easy setup
Create straightforward work procedures and activate the worker ID.

Easy setup of Pick to Light
Mount the modules, plug in the PTL connector, and follow the setup instructions.

Easy optimisation
For example, optimise work procedures, improve displays, or optimise times.

Easy control
Wire up to 10 inputs and 10 outputs and control equipment – no PLC necessary!

Easily connect nut runner
Connections for Open Protocol interfaces, I/O interfaces or special interfaces.
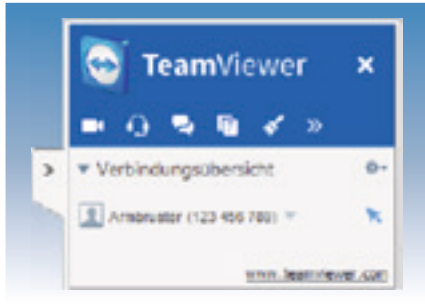
Easy remote maintenance
Get help quick with the preinstalled TeamViewer.

THE SWA IN ELAM – COMPOSITE SYSTEMS

Whether you arrange the SWA with the display in direct view of the employee or you display the assistant functionality with documentation/drawings in a touchscreen monitor at eye level, all services are always supplied by the ELAM system via an SWA. Either locally from a server in a production network or factory-wide from your data centre via a virtual server – almost always with a direct connection to your ERP system.

It can be as an upgrade of existing systems or the upgrade of new systems, right down to the creation of complete industrial manufacturing systems.

But there is another special feature too …

SWA AND ELAM START AS PACKAGE
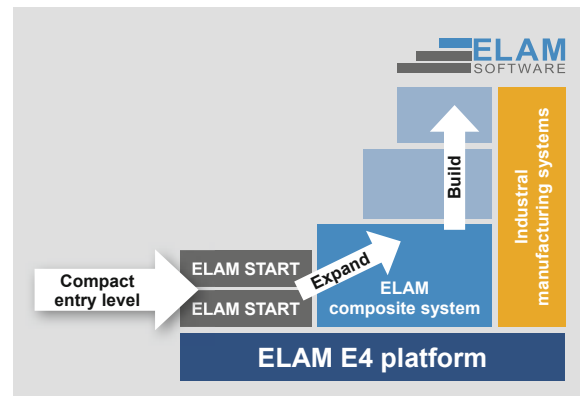
To get started quickly and to allow you to develop your own expertise, we have created a special basic package for you: an SWA server with an external monitor.

It includes a scanner and the pre-installed ELAM software that is typically needed at workstations for assembly, scanning, screwing, label printing, controlling Pick to Light, as well as worker keys and modules for traceability and remote maintenance – all preconfigured and with self-explanatory quick-step instructions. It even includes three keys.

A complete set of modules is available for you if you want to expand even more, all you have to do is take your pick from the list of sales modules. All the expansion options are included, right down to the composite system – ELAM START may be a fast and economical entry-level system, but it has a lot to offer!
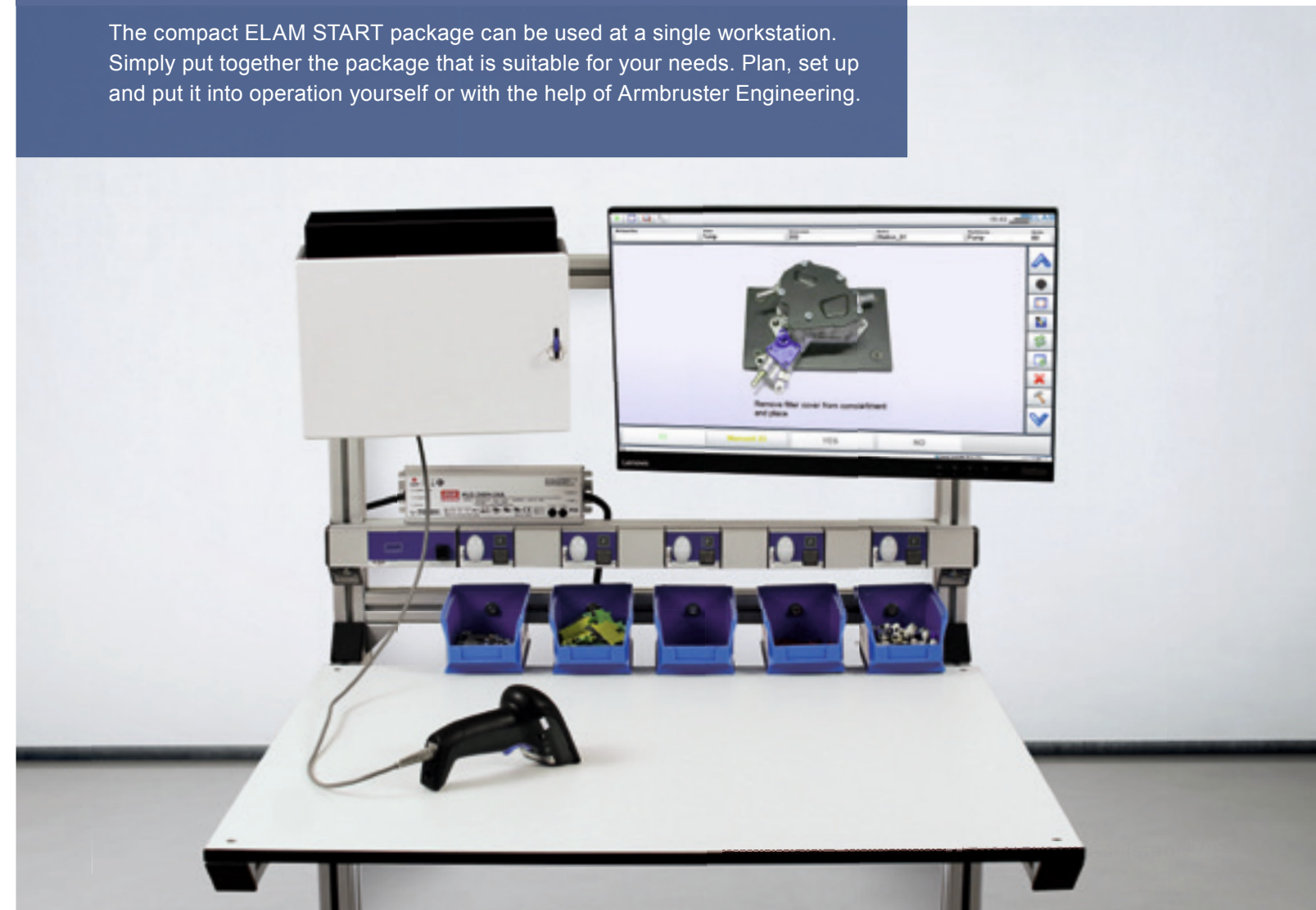
ELAM START
SINGLE WORKSTATION

The compact ELAM START package can be used at a single workstation. Simply put together the package that is suitable for your needs. Plan, set up and put it into operation yourself or with the help of Armbruster Engineering.

ELAM START OVERVIEW:

▶ Assistance system with SWA server

▶ 2 D scanner and 23" external touchscreen display

▶ Further optional modules

▶ Memory functions and evaluations

▶ Support through numerous service and training offers

▶ Self-sufficient network; software is preinstalled

▶ Special package price; install it yourself with instructions

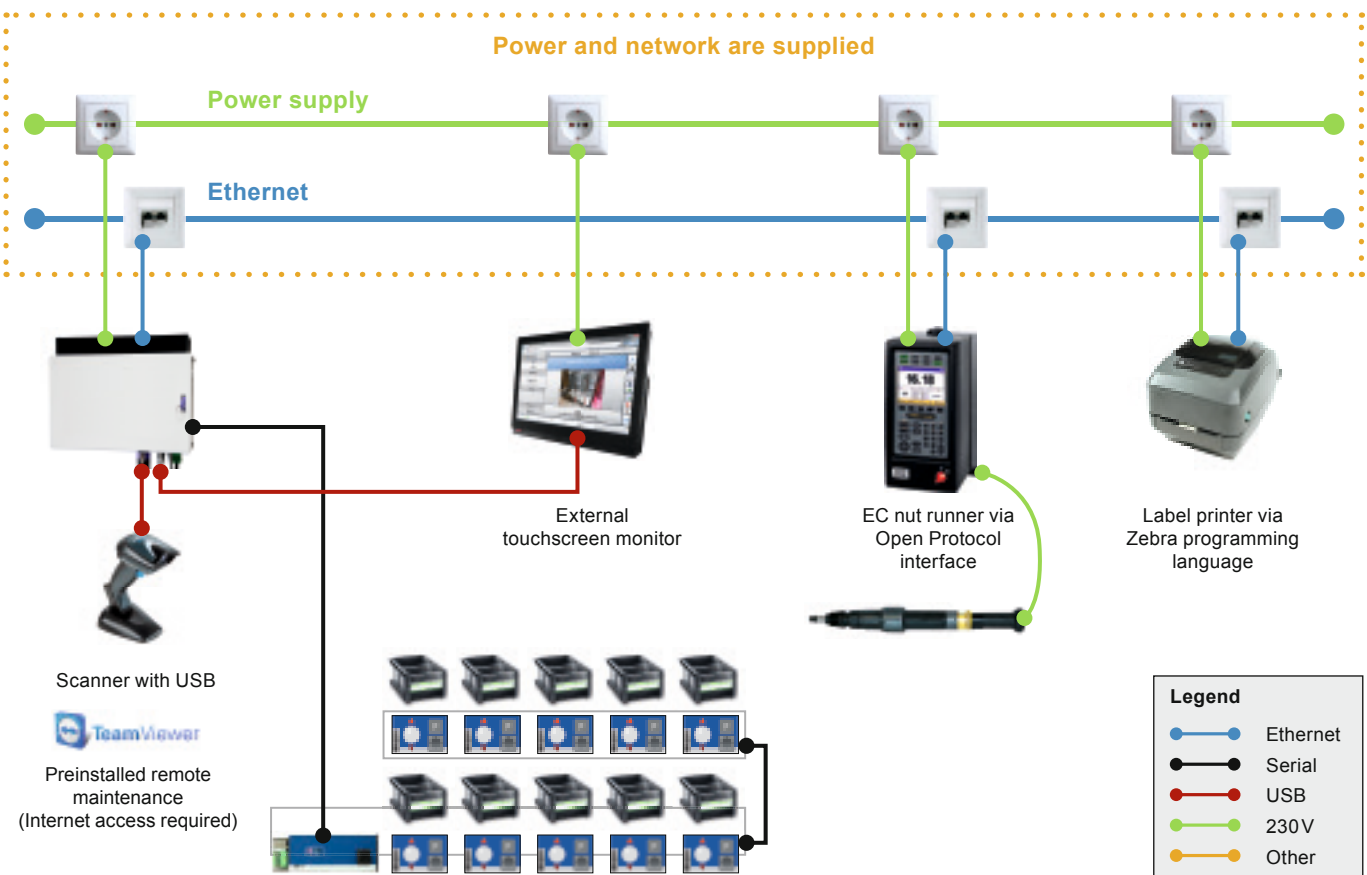▶ Commissioning by Armbruster Engineering possible

ELAM START
YOUR START IN ASSISTANCE SYSTEMS FOR INDUSTRY 4.0

ELAM START is a compact entry-level solution for setting up assistance functionality in the workplace. Design reliable process sequences all by yourself. With the ELAM assistants you can select both touchscreen monitor and Pick to Light compartment displays.

The ELAM START basic equipment includes a preinstalled SWA server, a scanner and an external touchscreen monitor. It also allows the connection of EC nut runners and label printers via LAN. 10 inputs and 10 outputs are available for digital connections.

EXAMPLE CONFIGURATION:

Power and network are supplied

Power supply

Ethernet

External touchscreen monitor

EC nut runner via Open Protocol interface

Label printer via Zebra programming language

Scanner with USB

TeamViewer

Preinstalled remote maintenance (Internet access required)

Legend

●	Ethernet
●	Serial
●	USB
●	230 V
●	Other

YOUR BENEFITS:

▶ Digital and graphic-based work instructions

▶ Faster, more intuitive and efficient working

▶ Satisfied and informed employees

▶ Controlled assembly/quality assurance

▶ Perform and evaluate processes reliably

▶ Increased efficiency at lower costs

▶ Productivity increases of up to 20 %

▶ Error rates drop; no need for searching

SIMPLY ORDER, SET IT UP AND PUT INTO OPERATION YOURSELF – DONE

The selected components sent to you are already preconfigured. With the help of our documentation and self-explanatory quick-step instructions, you can install and wire the system before starting it up. Then you can enter your own work instructions. The step by step procedure for electronic process instructions is this easy.
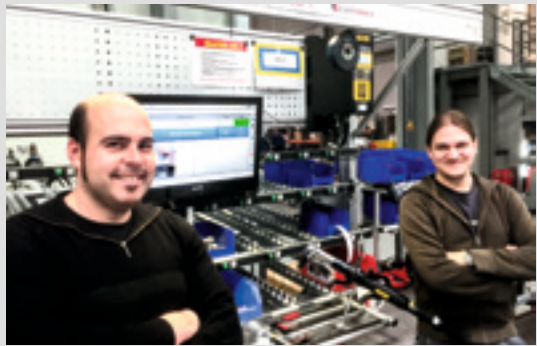
If you want you can also choose the optional service package. This includes assistance in putting the system into operation and on-location orientation.
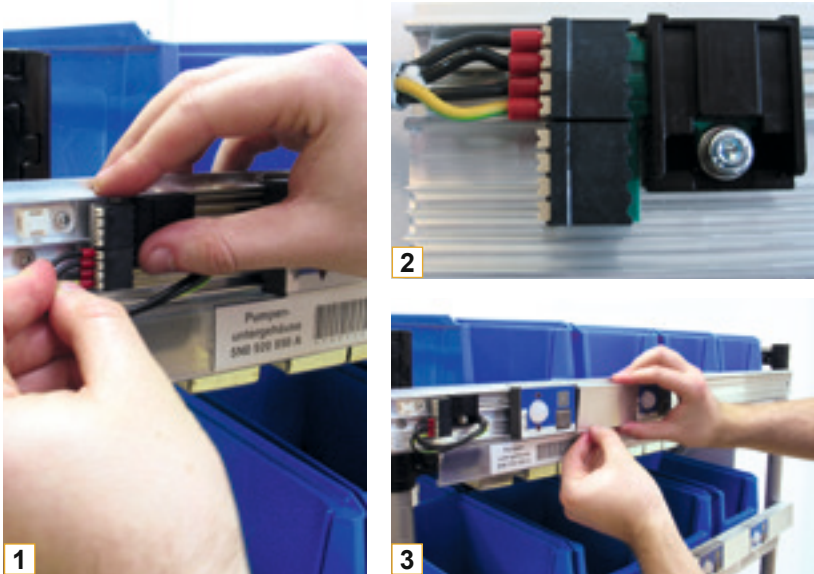
Example quick-step instructions for putting into operation:

1.) Mount connection terminals

2.) Assign/install the wires

3.) Cut the blind cover to fit and apply

A SATISFIED CUSTOMER

We set it all up ourselves

" *As far as hardware goes, we needed to mount the nut runners/PC mounts and retainers and do the wiring. Now the system is running smoothly and my colleague and I are quite the specialists in the field.* "

Aside from assembly, ELAM START can also be used for reporting supply needs.

When an employee notices a shortage of parts in a bin, they can report this need to the hand-held computer of the logistics service by pressing the F button on the compartment display.

There it is registered and the supply process can take its course.

ELAM START
SALES MODULES

BASIC EQUIPMENT	PRODUCT IMAGE
BASIC EQUIPMENT (STAMA No. 3912)	
• Windows 10 IoT LTSB • Including installation of all device drivers • Including removal of entertainment software • Including setup of write-protection functions	
ELAM START SYSTEM LICENCE (STAMA No. 6000)	
• ELAM E4 administration • ELAM E4 web server	
ELAM DISPLAY MODULES LICENCE (STAMA No. 4010)	
• ELAM E4 assistant	
SOFTWARE TOOLS (STAMA No. 3933)	
• Microsoft SQL Server Express 2017 • Datalogic Aladdin v. 1.14.0 • TeamViewer remote maintenance Quick Support 12	
STATION MASTER SMART WORK ASSISTANT (STAMA No. 3287)	
• SWA 3287 Server (Rev. 0.2) • SWA Key Reader with 3 Keys • Adapter plate on back (VESA dimensions) • 10 x inputs / outputs (expansion possible) • 2 x USB 2.0 • 2 x USB 3.0 • 1 x HDMI • 1 x PTL • 1 x Ethernet • 1 x 24V DC connection • On / Off button with LED • 230V / 24V mains adapter	

BASIC EQUIPMENT	PRODUCT IMAGE
2D HAND-HELD SCANNER, CORDED (STAMA No. 3444)	
• USB cable • Scanner holder	
23" EXTERNAL TOUCHSCREEN MONITOR (STAMA No. 3158)	
• HDMI cable • USB cable • 230 V power cord	
PROJECT SERVICES	
• System configuration • Documentation • Shipping from Bremen plant • Packaging	

PACKED AND DELIVERED IN TWO BOXES

The basic ELAM START equipment is packed into just two boxes, guaranteeing its safe passage to you.

ELAM START
SALES MODULES

OPTIONS/DESCRIPTION		PRODUCT IMAGE
OPTION 01: QUICK CHANGE MECHANISM (STAMA No. 3180)		
To mount the SWA at the workstation • Wall mount • Wall plate • Monitor retainer	• Installation materials (screws, anchors, washers, spacers) • Quick fastener (max. 15 kg)	
OPTION 02: PICK TO LIGHT-INSTALLATIONSSET (STAMA Nr. 3648)		
• Snap-on PTL controller with connecting terminal • 5 pcs. PTL display module L-6 VAR00 • Installation materials (covers, side covers, contact profile, 1 m rail length)	• Four-pole connection cable for Neutrik sockets (2 m length)	
OPTION 03: PICK TO LIGHT EXPANSION SET (STAMA No. 3649)		
Expandable to up to 60 compartment displays • Connection cable (1 m length) • 5 pcs. PTL display module L-6 VAR00	• Installation materials (covers, 2x bus connector on the right, side covers, contact profile, 1 m rail length)	
OPTION 04: SWA TERMINAL BOX (STAMA No. 3575)		
For simplified assignment of inputs and outputs • 2x Phoenix sockets with cable housing KG MC 1.5 / 12	• Cast aluminium housing with DIN rail • 24x two-tier terminals (with inscription)	
OPTION 05: EC NUT RUNNER OPEN PROTOCOL SOFTWARE CONNECTION		
Nut runner control (EC control, EC spindle, connection cable) is supplied by customer	Required: • Ethernet connection to SWA • Open Protocol **Nut runner hardware can also be offered on request.**	

OPTIONS/DESCRIPTION		PRODUCT IMAGE
OPTION 06: LABEL PRINTER WITH ETHERNET INTERFACE (STAMA No. 3640)		
Printer with connection cable is supplied by the customer.	Required: • Ethernet connection to SWA • ZPL support	
OPTION 07: BITCUBE WITH ETHERNET INTERFACE (STAMA No. 3562)		
• Bitcube housing with removal logic and LED displays • Plug-in 24 V power supply • Six inserts (milled according to supplied bits)	Required: • Ethernet connection to SWA **Bits supplied after ordering**	
OPTION 08: SWITCH FOR DEVICE CONNECTION (STAMA No. 3603)		
• Switch with Ethernet interface		
OPTION 09: USB HUB (STAMA No. 3576)		
• USB hub		
OPTION 10: SWA WIFI CONNECTION (STAMA No. 3577)		
• WiFi connection		
OPTION 11: HAND-HELD MULTIMETER WIFI (STAMA No. 3570)		
• Documentation of current and voltage test • Connection via WiFi	• Direct transfer of measured values via trigger on the measuring tip	
OPTION 12: SWA KEYS IN DIFFERENT COLOURS (STAMA No. 3094)		
Available in: • Black • Green	• Yellow • Blue • Red	

ORDER YOUR SMART WORK ASSISTANT AND YOUR
ELAM START PACKAGE DIRECTLY FROM US:

WWW.ARMBRUSTER.DE

Take advantage of the benefits of a personal login and register at our homepage
for our newsletter.

Contact

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