



**FIELD OF APPLICATION**

Lockstitch, chainstitch and overlock machines of various manufacturers without automatic backtacking / stitch condensing.

**ALSO AS A REPLACEMENT FOR:**

- AB60C**
- AISIN high-speed seamer AD3xx, AD158, 3310 and overlock EK1
  - BROTHER lockstitch machine cl. 737-113, cl. 737-913
  - BROTHER chainstitch machine FD3 B257
  - DÜRKOPP ADLER lockstitch machine 210, 270
  - JUKI high-speed seamer with index -6 and index -7
  - KANSAI chainstitch machine cl. RX 9803
  - PFAFF lockstitch machine 563, 953, 1050, 1180
  - PEGASUS W500/UT, W600/UT/MS without stitch condensing
  - PEGASUS backlatch machine
  - SINGER lockstitch machine 211, 212, 591
  - YAMATO backlatch machine ABT3
  - YAMATO chainstitch machine
- US80A**
- UNION SPECIAL chainstitch machine 34000, 36200
  - UNION SPECIAL lockstitch machine 63900AMZ

Adapter cords see Special Accessories!

**OUTPUTS / INPUTS IN THE SELECTABLE MODES**

Mode	Designation	Outputs					Inputs		
		FL (6.5A)	M1 (3.0A)	M2 (3.0A)	M3 (3.0A)	ML (0.5A)	in1	in3	in4
	<b>Power transistors →</b>								
0	Lockstitch; e. g. Aisin, Brother Dürkopp Adler, Pfaff	FL	FA1 +	FA2	FW	ML	---	---	---
1	Lockstitch; e. g. Singer (211U, 212U, 591)	FL	---	FA2	FW	ML	---	---	---
2	Lockstitch; e. g. Singer (212UTT)	FL	---	FA	FSPL	ML	---	---	---
3	Lockstitch; e. g. Dürkopp Adler (467)	FL	FA	FSPL	FW	ML	---	---	---
4	Chainstitch; e. g. Union Special (replacing US80A)	FL	FA-R	FA-V	FW	ML	LSP	---	---
5	Chainstitch; parallel sequence; e. g. Brother, Global Kansai, Pegasus; Rimoldi, Union Special, Yamato	FL	FA	FA	FW	ML	LSP	---	---
6	Chainstitch; tape cutter / fast scissors	FL	M1	AH1	AH2	ML	---	---	---
7	Overlock	FL	M1	M2	AH	ML	---	---	---
8	Backlatch; Pegasus	FL	PD≤-1	PD≥1	---	ML	LSP	N.AUTO	---
9	Backlatch; Yamato	FL	PD≤-1	PD≥1	---	ML	LSP	N.AUTO	---
10	Lockstitch; e.g. Union Special (63900AMZ)/Refrey-FA	FL	FA-R	FA-V	FW	ML	---	---	---
11	Reversal of the direction of rotation with pedal in pos. -2	FL	DR-UK	PD=-2	ML	ML	N.POS	---	---
12	Reversal of the direction of rotation with input in3	FL	DR-UK	PD=0	ML	ML	N.POS	DR-UK	---
13	Lockstitch; e.g. Pfaff (1425)	FL	FA	FSPL	FW	ML	NH	POS2	DB
14	Lockstitch; e.g. Juki (5550-6 / 5550-7)	FL	FA1+2	M2	FW	ML	---	---	---
17	Chainstitch; Pegasus (stitch lock)	FL	M1	M2	STS	ML	---	---	---
18	Overlock; Bottoms	FL	M1	AH	M3	ML	---	---	---
19	Lockstitch; Macofrey	FL	FA-R	FA-V	FW	ML	---	---	---

Attention! The total power of the outputs is to be limited to 70VA!

**Abbreviations:**

- |       |                            |       |                          |        |   |
|-------|----------------------------|-------|--------------------------|--------|---|
| AH    | - Tape cutter              | FL    | - Sewing foot lift       | DR-UK  | - Reversal of the direction of rotation |
| AH1/2 | - Fast scissors            | FSPL  | - Thread tension release | LSP    | - Machine run blockage                  |
| FA1   | - Thread trimmer pos. 1-1A | ML    | - Machine running        | NH     | - Needle up                             |
| FA2   | - Thread trimmer pos. 1A-2 | PD≤-1 | - Pedal steps -1 / -2    | N.POS  | - Positioning speed                     |
| FA1+2 | - Thread trimmer pos. 1-2  | PD≥1  | - Pedal steps 1...12     | N.AUTO | - Automatic speed                       |
| FA-V  | - Thread trimmer forward   | PD=0  | - Pedal steps 0          | POS2   | - Run to position 2                     |
| FA-R  | - Thread trimmer backward  | PD=-2 | - Pedal steps -2         | EST    | - Single stitch                         |
| FW    | - Thread wiper             | STS   | - Stitch lock            | DB     | - Speed limitation                      |

- Additional features:**
- Power supply 24V=, max. 0.5A for further additional devices
  - Power supply 15V=, max. 30mA
  - Power supply 5V=, max. 20mA
  - Signals position 1, position 2 and generator impulses are always available, independently of the set mode. (transistor output with open collector, max. 40 VDC, 10mA)

## CHARACTERISTICS

The control has a digital touch panel for programming all parameters (functions, times, speeds, etc.).

The control is operated by means of the detachable external actuator. 12 controlled speed stages are available. Stage 1 (positioning speed) and stage 12 (maximum speed) can be set. The maximum speed of the set value can be reduced by stages. The basic setting of the maximum speed is not affected. Stages 2...11 (intermediate speeds) adapt automatically to the respective maximum speed.

## THE FOLLOWING FUNCTIONS ARE AVAILABLE AND CAN BE ADAPTED TO THE MACHINE:

- **TYPE OF SEWING MACHINE:** Different modes for various lockstitch, chainstitch and overlock sewing operations can be selected.
- **SOFTSTART:** On / off; number of stitches and speed at the start of the seam can be selected (2 stitches / factory setting: 500 RPM).
- **BASIC POSITION:** Needle position at stop in the seam up/down.
- **BRAKING POWER AT MACHINE STANDSTILL:** Braking effect can be set.
- **SEWING FOOT LIFT:** At stop in the seam automatic / by pedal, after thread trimming automatic / by pedal, start delay from lifted sewing foot can be set.
- **THREAD TRIMMER:** On / off; signals for various manufacturers.
- **THREAD WIPER:** On / off.
- **STITCH COUNTING:** On / off.
- **REVERSION:** Reversing angle up to 300° and activation delay can be set.
- **DIRECTION OF ROTATION OF THE MACHINE:** Programmable ccw / cw.
- **SPEED RANGE:** 70 RPM up to 9900 RPM (depending on machine).
- **SPEED LIMITATION:** Can be varied during machine run and at intermediate stop.

## DIFFERENT INPUT FUNCTIONS ARE SELECTABLE BY MEANS OF PARAMETERS:

3 switch inputs can be programmed individually with the following functions

Needle up/down	Unlocking the chain (can be activated by pressing a pushbutton)
Needle up	Set value for bobbin thread monitor
Single stitch (basting stitch)	Positioning speed n1
Full stitch	Reversal of the direction of rotation (mode 12)
Needle to position 2	Speed limitation n9
Machine run blockage effective with open contact	Needle runs from position 1 to position 2 (safety function)
Machine run blockage effective with closed contact	Speed limitation with external potentiometer
Machine run blockage effective with open contact (unpositioned)	External light barrier
Machine run blockage effective with closed contact (unpositioned)	Pedal controlled speed n9
Run at automatic speed n12	High lift for walking foot when sewing foot is lifted
Run at limited speed n12	Run at automatic speed n9 (can be interrupted by pressing the pedal to pos. 0)
Sewing foot lift with pedal in position 0 (neutral)	
High lift for walking foot operational mode not stored	
High lift for walking foot operational mode stored (flip flop)	
Tape cutter and/or fast scissors	
Intermediate backtack / intermediate stitch condensing	

## UNIT CONSISTING OF:

<b>1 direct current motor</b>	type DC1600 (see last page)	<b>1 set of standard accessories B131 consisting of:</b>
<b>1 electronic control</b>	type N.-AB60D1467 with power pack type N156A and mounted actuator EB301 (optional EB302) with reduced actuating force	1 belt guard, complete
<b>1 position transmitter</b>	type P5-2 standard type P5-4 Singer cl. 211, 212, 591	1 set of hardware
<b>1 mains switch</b>	type NS 106 *1) 1	1 motor mounting foot
		1 bracket 1 and 2, short
		1 potential equalization cord
		1 documentation
		<b>1 set of accessories Z3 consisting of:</b>
		pitman rod, complete
		<b>1 pulley *2)</b>

\*1) Available versions see MAINS SWITCH specification

\*2) The following sizes are available: B58-L, B63-L, B67-L, B71-L, B75-L, B80-L, B85-L, B90-L, B95-L (pulleys of the sizes 40 and/or 50 mmØ see Special Accessories)

**Note:** Select the pulley such that the motor runs at approx. 4000 RPM with max. number of stitches!

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**SPECIAL ACCESSORIES:**

Special Accessories, against Extra Charge:	Part No.
<b>Reflection light barrier module</b> LSM001A	6100028
<b>Solenoid</b> type EM1...(for e. g. sewing foot lift, backtacking)	available versions see specification "solenoids" 1112815
<b>Adapter cord</b> for the connection to AISIN high-speed seamers AD3xx, AD158, 3310 and overlock machine EK1	1112814
<b>Adapter cord</b> for the connection to BROTHER cl. 737-113, 737-913	1112822
<b>Adapter cord</b> for the connection to BROTHER chainstitch machines cl. FD3 B257	1112845
<b>Adapter cord</b> for the connection to DÜRKOPP ADLER cl. 210 and 270	1112866
<b>Adapter cord</b> for the connection to GLOBAL cl. CB2803-56	1112816
<b>Adapter cord</b> for the connection to JUKI high-speed seamers with index -6	1113132
<b>Adapter cord</b> for the connection to JUKI high-speed seamers with index -7	1113130
<b>Adapter cord</b> for the connection to KANSAI machines cl. RX 9803	1112821
<b>Adapter cord</b> for the connection to PEGASUS cl. W500/UT, W600/UT/MS with/without stitch condensing	1113171
<b>Adapter cord</b> for the connection to PEGASUS backlatch machines	1112841
<b>Adapter cord</b> for the connection to PFAFF cl. 563, 953, 1050 and 1180	1113072
<b>Adapter cord</b> for the connection to PFAFF cl. 1425	1113096
<b>Adapter cord</b> for the connection to RIMOLDI cl. F27	1112824
<b>Adapter cord</b> for the connection to SINGER cl. 211, 212U, 212UT and 591	1113199
<b>Adapter cord</b> for the connection to UNION SPECIAL cl. 63900AMZ (as a replacement for US80A)	1112865
<b>Adapter cord</b> for the connection to UNION SPECIAL cl. 34000 and 36200 (as a replacement for US80A)	1112905
<b>Adapter cord</b> for the connection to UNION SPECIAL cl. CS100 and FS100	1112818
<b>Adapter cord</b> for the connection to YAMATO VC series chainstitch machines	1112826
<b>Adapter cord</b> for the connection to YAMATO backlatch machines ABT3	1113205
<b>Adapter cord</b> for the connection to YAMATO backlatch machines ABT13, ABT17	1113178
<b>Adapter cord</b> for the connection to YAMATO VG series chainstitch machines	1112229
<b>Extension cable</b> for position transmitter P5-..., approx. 315 mm long, complete with plug and socket connector	1111584
<b>Extension cable</b> for position transmitter P5-..., approx. 1100 mm long, complete with plug and socket connector	1111858
<b>Extension cable</b> for motor connection, approx. 400 mm long	1111857
<b>Extension cable</b> for motor connection, approx. 1500 mm long	1111845
<b>Extension cable</b> for external actuator, approx. 750 mm long, complete with plug and socket connector	1111787
<b>Extension cable</b> for external actuator, approx. 1500 mm long, complete with plug and socket connector	0501278
<b>5-pin plug</b> with locking screw for the connection of another external actuator	4170011
<b>External actuator</b> type EB301 with approx. 250 mm connecting cable and 5-pin plug with locking screw	4170012
<b>External actuator</b> type EB302 (softer spring) with approx. 250 mm connecting cable and 5-pin plug with locking screw	4170013
<b>Foot control</b> type FB301 (with one pedal) for standing operation with approx. 1400 mm connecting cable and plug	4170018
<b>Foot control</b> type FB302 (with three pedals) for standing operation with approx. 1400 mm connecting cable and plug	0300019
<b>Fitting piece</b> for position transmitter	1112223
<b>Pulley</b> 40 mmØ with special belt intake and slip-off protection (use SPZ belt)	1112224
<b>Pulley</b> 50 mmØ with special belt intake and slip-off protection (use SPZ belt)	5870013
<b>Knee switch</b> type KN3 (pushbutton) with cord of approx. 950 mm length without plug for activating the above functions	please indicate line voltage and sewing light voltage (6.3V or 12V)
<b>Sewing light transformer</b>	1110805
<b>7-pin plug</b> with locking screw (MAS 7100S) in plastic bag	1112900
<b>37-pole SubminD</b> connector with semimonocoque casing	1112899
<b>Single pin for 37-pole SubminD</b> with strand of 5cm length	

▪ AVAILABLE MOTOR

**Example For Ordering euramot Positioning Drives**

Control \_\_\_\_\_ Supply voltage  
 Power pack \_\_\_\_\_ Supply frequency  
 Motor \_\_\_\_\_

**DC1600/N156A-AB60D\* 190...240V – 50/60Hz**

\* Besides the type designation, the control nameplate indicates the respective state of development (e. g. AB60D....Y1) and the program number (e. g. AB60D1467..). The state of development is only required in the case of technical inquiries or repairs.

Available Motor							
Type	Rated Torque Nm	Maximum Torque Nm	Nominal speed RPM	Power W	Weight *1) kg	Protection	Notes
DC1600	1.5 at 5000 RPM	6.6 at 1500 RPM	5000	750	8.7	IP 40	

- \*1) - Weight of the motor with foot, bracket, pulley (Ø71) and belt guard  
 - Weight of the control with actuator, position transmitter and mains switch (according to type) approx. 7.5 kg



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