# PFAFF

# *Electronic Stop*

## QD55x / QE55x

## Series: digital K2

CE

## Type

# P20K2

## Instruction Manual

## Part 3

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**English 11.12.96**

**The CE symbol confirms that the respective drive system meets the requirements for partial machines of the following EU directives:**

- **EMV Directive 89/336/EWG**
- **Low Voltage Directive 73/23/EWG**

## Contents

# 11. Survey and List of Parameters

## 11.1 Explanation of Parameter Survey

The parameter survey is designed as an aid for finding parameters quickly. It is a summary of references for the parameter list. Listed behind each reference are all parameters which exert an influence on the function described by the reference.

The parameter survey is divided into five columns:
Column 1 shows the references (functions) to which parameters are assigned.
Column 2 shows the abbreviations of the respective functions.
Column 3 shows all parameters (setting numbers) belonging to the respective reference.
Column 4 shows, for each function (reference) which controls inputs or outputs, the applicable indications such as Ex or Ax which can also be found on the connections diagram.
Column 5 shows, for each function (control inputs (Ex) or control outputs (Ax)), the respective plugs with the number of contacts (see connections diagram).

Example for searching a parameter:
Keyword (function): inverse rotation
The parameter survey shows in column 3 the parameter numbers 618, 623, 801.

Suppose that the inverse rotation function is to be enabled. The parameter list shows this function under parameter number 618.

## 11.2 Explanation of Parameter List

The parameter list is divided into 5 columns. These comprise, in

column 1: the parameter number,
column 2: is the explanation (meaning) of the parameters and the coding system of row 1 of the keys of the mini operator's panel, used when the parameter concerned can be programmed with the mini operator's panel,
column 3: the programming level (A, B, C) on which the parameter in question can be accessed,
column 4: the range of values within which the parameter in question can be set,
column 5: the value of the parameter in question is set on delivery ex factory.

Parameters having "either/or" validity (software switches) can merely be set to value I or II. In the case of such parameters, column 4 is empty.

## 11.3 Parameter survey P20K2 (4A_001_8.ENO)

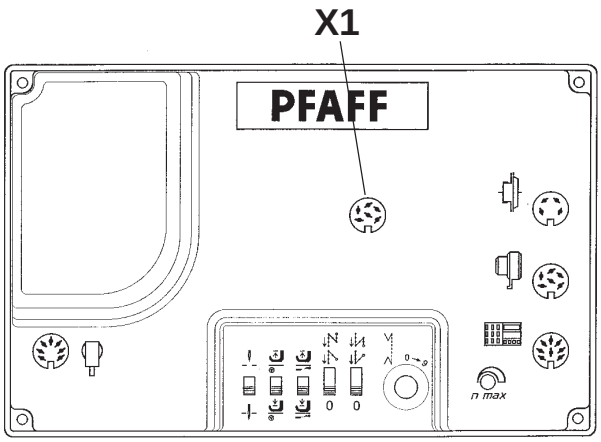
| Function | Abbrev'n | Parameter | Input<br>Output | Connection<br>Socket/Contacts |
|---|---|---|---|---|
| Control | REG | 884/885/886<br>887/889 | | |
| Direction finder position | PEIPO | 653/789 | | |
| Hardware test | HWT | 797 | | |
| Machine class | MAKL | 799 | | |
| Needle position | NAPO | 700/701/702<br>703/705/706<br>710 | | |
| Needle position change-over | NPW | 616 | | |
| Needle up without trimming | NHOS | 616/710 | | |
| Programming level C | EBC | 798 | | |
| Residual brake | STBR | 718 | | |
| Seam end | NE | 602 | | |
| Soft start | SANL | 116/117 | | |
| Speed | DRZ | 117/605/606<br>607/608/609<br>676/901 | | |
| Speed decrease | DRZAB | 723 | | |
| Speed increase | DRZAN | 722 | | |
| Start | START | 603 | | |
| Thread trimming | SN | 601/609/705<br>706/761/901 | A1<br>A2 | X5:4<br>X5:1 |

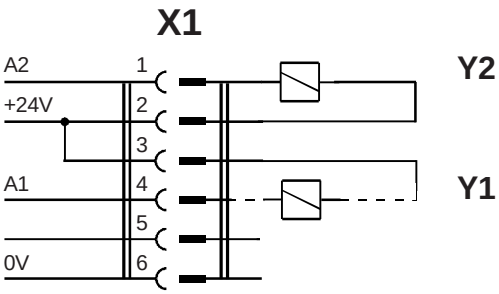
## 11.4 List of Parameters P20K2 (4A_001_8.EN)

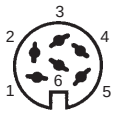
| No. | Function (Meaning) | Level | Range of Values | Standard Value |
|---|---|---|---|---|
| 116 | (SANL) Soft start stitches | A,B | 0-255 | 0 |
| 117 | (SANL/DRZ) Speed for soft start stitches | B | 30-640 | 400 |
| 601 | (SN) Trimming | B | | I |
| | I yes | | | |
| | II no | | | |
| 602 | (NE) Seam end at treadle position | B | | II |
| | I slightly heeled (-1) | | | |
| | II fully heeled (-2) | | | |
| 603 | (START) Start after seam end | B | | I |
| | I after treadle 0 only | | | |
| | II immediate start of operation | | | |
| 605 | (DRZ) Actual speed in display | B | | II |
| | I yes | | | |
| | II no | | | |
| 606 | (DRZ) Speed: level 1 (min.) | B | 30-640 | 180 |
| 607 | (DRZ) Speed: level 12 (max.) | B | 100-10000 | 1500 |
| 608 | (DRZ) Speed level curve (treadle characteristic) | B | | I |
| | I linear | | | |
| | II not linear | | | |
| 609 | (SN/DRZ) Trimming speed 1 | B | 30-400 | 180 |
| 616 | (NPW/NHOS) Function of external key (input E2) | B | | II |
| | I needle position change-over (NPW) | | | |
| | II needle up without trimming (NHOS) | | | |
| 653 | (PEIPO) Direction finder position before sewing | B | | II |
| | I yes | | | |
| | II no | | | |
| 676 | (DRZ) Speed adjustment via potentiometer possible | B | | I |
| | I yes | | | |
| | II no | | | |
| 700 | (NAPO) Needle position 0 (reference position of the needle) | B | 0-239 | 0 |
| 701 | (NAPO) Angular adjustment | B | | I |
| | I with handwheel (teach-in) | | | |
| | II by keys (+/-) | | | |
| 702 | (NAPO) Needle position 1 (needle down) | B | 0-239 | 75 |
| 703 | (NAPO) Needle position 2 (thread take-up lever up) | B | 0-239 | 213 |
| 705 | (NAPO/SN) Needle position 5 (end of trimming signal 1) | B | 0-239 | 125 |
| 706 | (NAPO/SN) Needle position 6 (start trimming signal 2) | B | 0-239 | 119 |
| 710 | (NAPO/NHOS) Needle position 3 (needle up) | B | 0-239 | 200 |
| 718 | (STBR) Timing of residual brake (0 = brake off) | B | 0-20 | 0 |

| | | | | |
|---|---|---|---|---|
| 722 | (DRZAN) Acceleration ramp<br>1 gradual<br>50 steep | B | 1-50 | 45 |
| 723 | (DRZAB) Brake ramp<br>1 gradual<br>50 steep | B | 1-50 | 25 |
| 761 | (SN) Extension of thread trimming after positioning | B | 0-2550 | 0 |
| 789 | (PEIPO) Angle for direction finder position | B | 0-239 | 225 |
| 797 | (HWT) Hardware test | B | | II |
| 798 | (EBC) Programming level C<br>I yes<br>II no | B | | II |
| 799 | (MAKL) Machine class which has been selected | B | 1-1 | 1 |
| 884 | (REG) Proportional amplification of the speed control (in general) | B | 0-50 | 25 |
| 885 | (REG) Integral amplification of the speed control | C | 0-50 | 20 |
| 886 | (REG) Proportional amplification of the order controllers | C | 0-50 | 15 |
| 887 | (REG) Differential amplification of the order controllers | C | 1-50 | 20 |
| 889 | (REG) Time required for order controlling (0 = always) | C | 0-1000 | 150 |
| 901 | (DRZ/SN) Trimming release speed | C | 30-500 | 400 |
| 910 | (SONST) Quick internal | C | 1-50 | 13 |

# 12. Anschlußplan der Steckerplatte P20K2




Bedeutung der Magnete bzw. Magnetventile, Taster / Meaning of magnets and/or solenoids and keys
Signification des aimants resp. solenoides et touches / Significato dei magneti, delle valvole magnetiche e dei tasti
Significación de los imanes y/o los solenoides y pulsadores / Significação dos imaõs e/ou as solenoidas e teclas
Betekenis van de magneten resp. magneetkleppen, toetsen

| | |
|---|---|
| **Y1**<br>I max<br>10 A * | Fadenschneider pneumatisch / pneum. thread trimmer / coupe-fil pneumatique / rasafilo pneumatico / cortahilos neumático / corte de linhas pneumático / pneumatische draadsnijder |
| **Y2**<br>I max<br>10 A * | Fadenschneider magnet. / magn.thread trimmer / coupe-fil magnétique / rasafilo magnetico / cortahilos magnético / corte de linhas magnético / magnetische draadsnijder |

# 13. Maintenance and Repair

Before starting any maintenance or servicing work, switch the digital K2 off, separate the drive system from mains power (such as by pulling the mains plug) and wait for the motor to stop completely.

General maintenance work may only be perfomed by properly trained personnel and with due observation of the operating instructions manual.

The following maintenance work is required:
Depending on operating conditions, clean the drive system at least once a week from any lint and dust accumulated. In particular keep the ventilations louvers and cooling fins of the motors clean, especially the cooling fins between the motor and the control box.

Remove any threads caught onto the synchronizer shaft, the belt pulley and the motor shaft.

Check the drive system and its accessories (synchronizer on the sewing machine shaft, speed control unit on the control box) for firm mounting on the stand.

Check the belt tension as well as the wear condition of the belt.
Incorrect belt tension can increase operating noise and vibrations.

**Procedure for Checking and Servicing the Clutch**

The digital K2 is not free of wear.
In order to ensure as long a service life as possible for the motor (the clutch), it will be convenient to check, clean and lubricate the clutch - depending on operating hours - at least once or several times a year.
Clutch dismounting and remounting is described under chapter 7.1 "Basic Motor (QDx, QEx)".

- The cork lining of the clutch disk should stand out by 0.1 … 0.15 mm in axial direction from the outer rim of the steel disk. If the projection is less than 0.05 mm, it is required to replace the clutch disk.

- The cork lining of the brake disk should stand out by 0.1 … 0.15 mm in axial direction from the outer rim of the steel disk. If the projection is less than 0.05 mm, it is required to replace the brake disk.

- Cleaning
  Clean the cork linings of the clutch and the brake disk as well as the counter disks with a rag soaked in oil. Never use grease solvents for cleaning purposes.

- Greasing (lubrication)
  After cleaning, regrease the clutch and brake disks. For this purpose, use high-temperature resistant grease or oil. Apply a thin layer of lubricant and distribute it evenly.
  Lubricants recommended for use include:
  Quick special grease No. 451.011 or
  Molycote HT 600.

- Assembly
  When assembling the clutch and brake unit, make sure:
  a) that the dust washer is inserted into the center bore of the flange (7 in Fig. 7.2)
  b) to have the stop washer (19 in Fig. 7.2) filled with grease
  c) that the plastic rings on the hubs of the clutch and brake disks are firmly seated
  d) that the clutch and brake disks are so placed on the gear shaft that the air passage holes on both sides are fully aligned
  e) to perform clutch adjustment as described under 7.1.1.

When removing any covers or replacing any parts other than those that can be taken off by hand, live parts can be exposed.
Also, connection points can be live with electricity.

Before doing any maintenance or repair work or replacing any parts, make sure to separate the drive system from any source of electricity, when opening the drive system is required.

If maintenance or repair work on the open equipment is indispensable while electricity is on, such work may only be performed by specialized personnel duly informed about the hazards involved.
The regulations as per EN 50110 must be closely oberserved.

Checking the control system is permissible only with a high resistance measuring instrument to protect the semi-conductor components from excess voltage.

Repair work and elimination of malfunctions requiring specialized know-how may only be performed by trained personnel authorized by Quick-Rotan.

We wish to point out in particular that under the provisions of the product liability law we are not responsible for any damages caused by our products if such damages are due to:

- improper repair
- use of components not authorized by us
- intervention by a person not authorized by us.