

PD15 – User Manual

Version v2



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Revision history

Version	Date	By	Description
1	06/05/2019	GPRN	Initial version
2	23/10/2019	GPRN	Add label and intended use information
3	29/10/2019	GPRN	Add Regularly notices

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1 Preface

1.1 Preface

This manual is written for the original equipment manufacturer (OEM) who plans to build weaving machines based on this User Interface. It provides also deep hardware information for the system programmer. The manual contains interconnections, technical data and mounting requirements.

1.2 Explanation logo's



The part contains electrical equipment or wiring.



The Main Controller contains electrostatically sensitive components:
Prior to assembly and service operations, the personnel must be free of electrostatic charge, e.g. by touching the PE fixing screw or other grounded metal surfaces in the control cabinet.



Remarks



Attention

1.3 Product Description

This manual describes the user interface for a weaving machine.
It has a 15,6 inch touch screen for operating the weaving machine.
It is supplied with 26Vdc.
The communication with the weaving machine goes via Ethernet.
External data transfer is possible via four USB ports.
A NFC transceiver is integrated for purpose of user identification.
Wifi/BT module is integrated for data exchange

2 Glossary

CPU	Control Process Unit.
PCB	Printed Circuit Board
HMI	Human Machine Interface
IC	Integrated circuit.
EMC	Electromagnetic Compatibility
LCD	Liquid Crystal Display
LED	Light Emitting Diode

3 Liability

PsiControl cannot accept any liability if the client:

- has not installed the module conform this manual
- has modified or altered the controller in any way
- has replaced parts/components
- has combined the controller with other machines or work equipment than specified in this installation manual

4 Intended use.

The device shall not be sold on the Canadian or USA marked. It is a device to build in in our own PIKANOL weaving machines. So this is only a user/build in manual for internal use.

4.1 Environmental conditions

The controller is designed to work in following conditions:

- Minimum operating temperature: +10°C
- Maximum operating temperature: +40°C
- Maximum humidity: 95% RH no condensation
- Maximum altitude of 2000 m



The controller shall be protected against direct sunlight. Direct sunlight may affect the visual appearance of the controller.

5 FCC/ISED Regulatory notices

Modification statement

PICANOL N.V. has not approved any changes or modifications to this device by the user. Any changes or modifications could void the user's authority to operate the equipment.

***PICANOL N.V.** n'approuve aucune modification apportée à l'appareil par l'utilisateur, quelle qu'en soit la nature. Tout changement ou modification peuvent annuler le droit d'utilisation de l'appareil par l'utilisateur.*

Interference statement

This device complies with Part 15 of the FCC Rules and Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Wireless notice

This equipment complies with FCC and ISED radiation exposure limits set forth for an uncontrolled environment. The antenna should be installed and operated with minimum distance of 20 cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet appareil est conforme aux limites d'exposition aux rayonnements de l'ISDE pour un environnement non contrôlé. L'antenne doit être installée de façon à garder une distance minimale de 20 centimètres entre la source de rayonnements et votre corps. L'émetteur ne doit pas être colocalisé ni fonctionner conjointement avec à autre antenne ou autre émetteur.

FCC Class B digital device notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CAN ICES-3 (B) / NMB-3 (B)

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de classe B est conforme à la norme canadienne NMB-003.

6 Mounting and installation.

6.1 Mechanical mounting

- The unit is intended for mounting on a support next to the weaving machine frame. Precautions should be taken to avoid vibrations.
- The unit must be mounted on a firm base plate with 4 screws of M6 and with a hole-pattern of 200 mm x 100 mm.

6.2 Electrical installation

- Open the cable entry cover to make the electrical connections (Power supply and Ethernet communication)
- Use the rubber seal around the cables to make the unit dustproof.
- Close the cable entry cover after making the electrical connections.
- Grounding for functional and protective reasons see chapter 5.2.3.

6.2.1 Supply requirements

The device has **no** built-in fuse in the 26V module supply line and has to be protected externally.

Cords to the dedicated supply shall have a max length of 12m.

The SELV module supply voltage is:

- 26Vdc +10%, -10%, 1A

6.2.2 Ethernet requirements

A shielded twisted pair cable (CAT 5 STP) must be used for the Ethernet communication.

The maximum length of the Ethernet cable is 12 m.

6.2.3 Grounding

The aluminum back cover of the display must be connected to functional earth in order to guaranty correct operation. This must be done through one of the four mounting screws.



When due to machine design or electrical non-SELV/PELV cables in the proximity, a hazard of electrical shock is possible the metal housing of the machine interface has to be connected to protective earth according IEC60204-1

7 Maintenance during service

The controller shall not be opened by the end-user! If defect, please return the complete module.

7.1 The front-panel

The front-panel can be cleaned with a wet soft cloth and mild soap only.
The front part of the controller is scratch sensitive. Other products are not allowed and may damage the surface!

8 Product Description

8.1 Overview features

Main Controller
Core IMX6 Cortex A9 1 GHz
HMI 15.6 inch display Capacitive touch panel
8 Mbyte Flash NOR
16 GByte Flash eMMC
2 GByte DDR3 RAM
Ethernet-Bus
4 USB ports
NFC transceiver
WIFI/BT module
Supply 26Vdc, 0.8A

8.2 Ethernet bus

The IMX6 has an integrated Ethernet MAC compliant IEEE802.3. It supports IEEE802.1P/1Q VLAN frame tagging. The low level SW and OS layer provides the HW drivers, a network TCP/IP stack and higher level protocols. The Ethernet port provides the functionality to do the communication with the weaving machine.

USB ports

8.3 USB ports

The IMX6 has an integrated USB port and by using an USB hub, 4 USB ports are available. 2 USB ports are accessible from the outside and 2 USB ports are integrated under the cable entry cover.

The 2 external USB ports are used to exchange files from one machine to another by using an USB stick.

The 2 internal USB ports are foreseen for future expansions (not defined yet).

8.4 NFC transceiver

A NFC transceiver is integrated for purpose of user identification. The NFC uses an antenna inside the module.

8.5 WIFI/BT module

Wireless communication is possible through the Redpine RS9113-NB0-S1N.

9 Technical Data

CPU-Core

Parameter	Value
CPU	IMX6 Cortex A9
CPU-Bus configuration	64 Bit

Ethernet

Parameter	Value
Controller	Integrated in CPU
Specification	IEEE 802.3
Baudrate	100 Mbit
Isolated	yes
Connector Type ¹⁾	RJ45

General

Parameter	Value
Maximum Voltage	26Vdc +10%/-10%
Permissible Humidity	Relative humidity 95%@40°C no condensation
Type of Protection	IP52
Temperature Range Operating Storage	+10°C.....+40°C -30°C.....+70°C
Product Safety	EN IEC 60950 EN IEC 60204
EMC	EN 61000-6-2 EN 61000-6-4 ETSI EN 301 489-1 ETSI EN 301 489-3 (WIFI) ETSI EN 301 489-17 (BTLE)
RF	ETSI EN 300 328 (BTLE + WIFI) ETSI EN 300 330 (NFC)
RF exposure for using condition >20cm	EN 62311 FCC 47 CFR part 2.1091 ISED RSS-102 Issue 5
Dimension	430x280x60 mm
Housing	ALU
Mounting	On base plate

Certifications

CE

FCC and ISED for RF communications

Label

PICANOL	Model:	PD15	Part nr.:	BE322130.04
	Serial nr.: 			
CE   FCC				
SELV  26V ± 10% Max. 1A				
Contains FCC ID: XF6-RS9113SB Contains IC: 8407A-RS9113SB				
FCC ID: 2ATV5-PD15 IC: 25229-PD15				
Picanol N.V. Steverlyncklaan 15 - 8900 Ieper - Belgium				

10 Pin assignment

10.1 Power Supply

Type: Molex Minifit Junior 2 pole
Pin 1: 26V
Pin 2: DGD