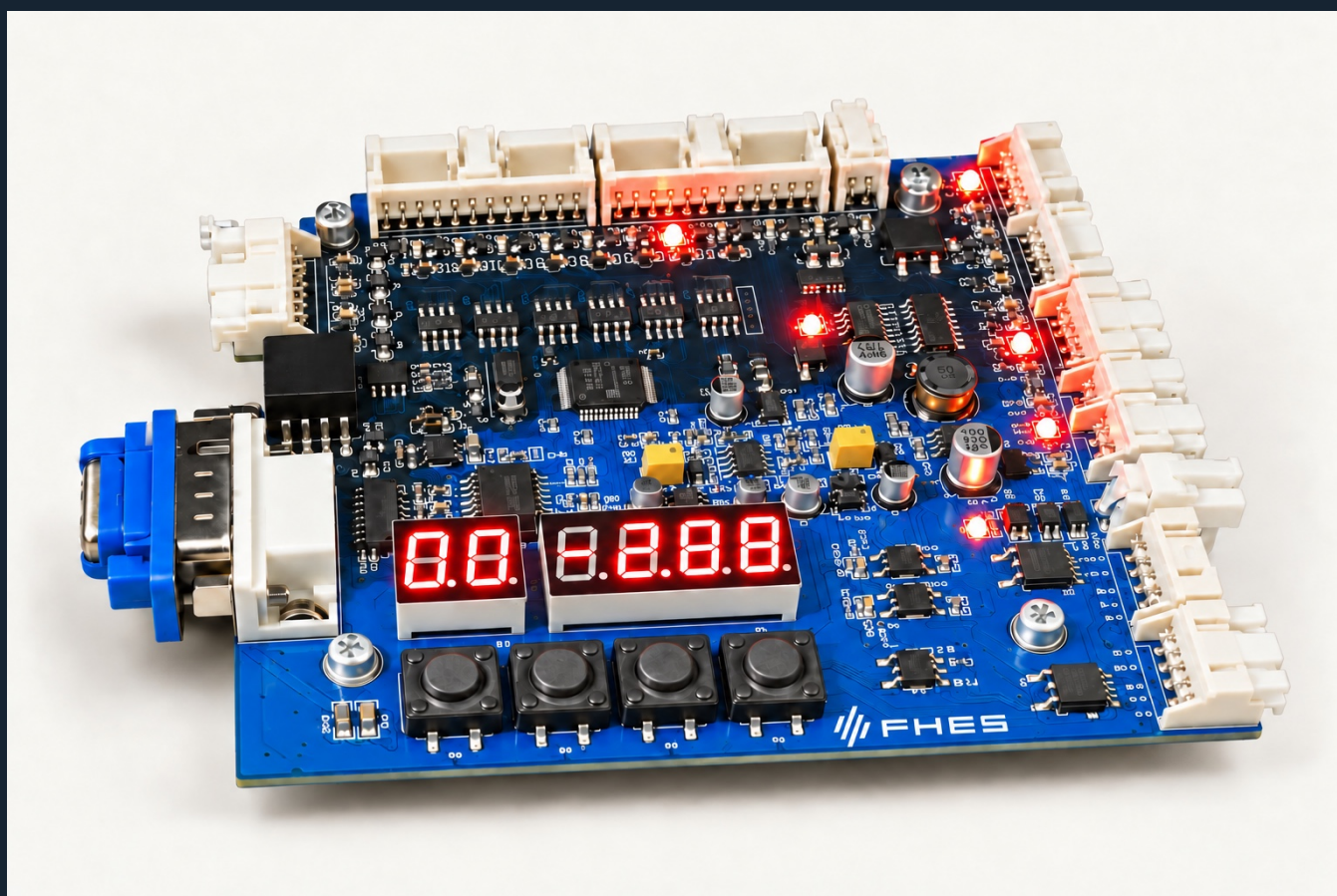


INK CONTROL / PRODUCT GUIDE

PCS

Integrated Negative-Pressure Ink Supply System

MCU digital control · FWS fault alerts · Coordinated ink-path and machine management



Integrated and precise, with clearer maintenance guidance

PRODUCT CATALOGUE / 2026.09

01 / System positioning

An integrated control unit for negative-pressure ink supply

With an MCU at its core, PCS manages ink supply, negative pressure and temperature through one digital control system.

01 / INTEGRATION

High integration

Centralized control logic reduces the need to adjust multiple points in a distributed analog ink system.

02 / PRESSURE

Precise negative-pressure control

Real-time measurement and operating control have separate, defined accuracy targets.

03 / WARNING

FWS fault alerts

When a monitored fault occurs, the system displays a fault code to support faster troubleshooting.

04 / CONDITION

Temperature control and circulation

Multi-stage temperature control works with ink-tank agitation and secondary-cartridge circulation to reduce settling.

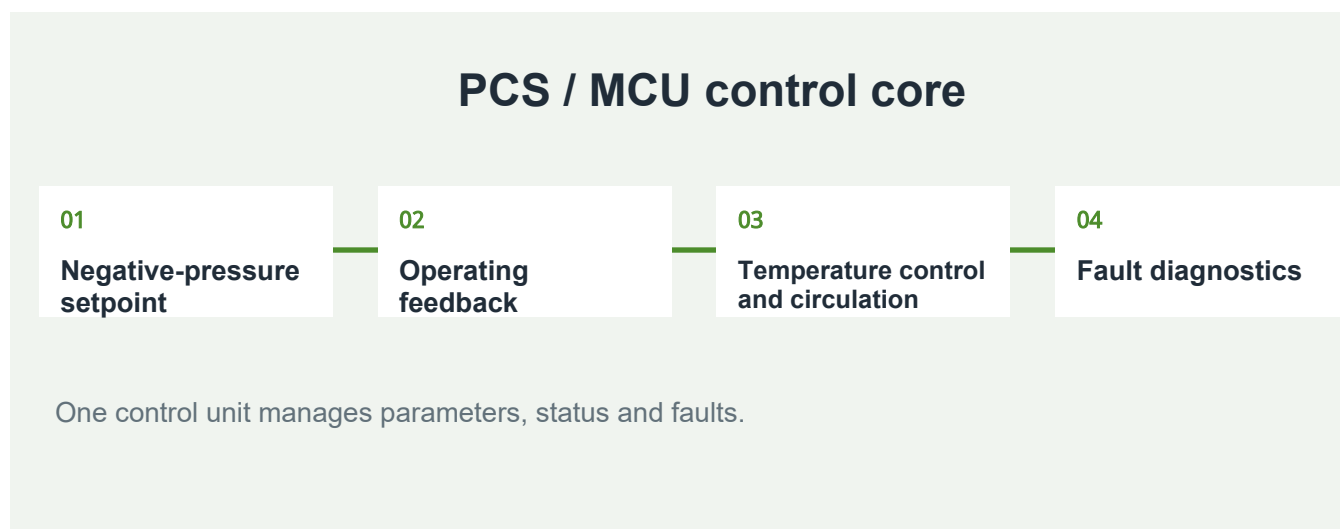
Centralized control makes faults easier to locate

Compared with separate analog controls, PCS brings ink supply, liquid level, temperature control, cleaning and cooling into one control chain. Maintenance staff can follow system prompts to locate faults and restore operation.

02 / Integrated architecture

MCU-centered management of the ink path

Control, monitoring, temperature regulation and fault diagnosis work within one architecture rather than as isolated functions.



01 / COMPACT

Fewer separate control nodes

Fewer independent control stages simplify configuration and integration.

02 / SERVICE

A clear maintenance path

Check fault codes, status readback and actuator actions in sequence.

Practical value of integration

Installers, commissioning engineers and service staff work with consistent control logic. When a fault occurs, they can check the system prompt and then the relevant function path instead of repeatedly checking separate modules.

Separate targets for measurement and operation

PCS specifies both negative-pressure measurement accuracy and control stability during operation.

±0.01 kPa

Negative-pressure measurement accuracy

Detects small pressure changes and provides feedback for control and fault assessment.

±0.02 kPa

Operating control accuracy

The target is to keep negative-pressure deviation within this range during operation.

Accuracy is different from a setting increment

Measurement Accuracy Reflects the ability of the pressure detection chain to identify actual changes.

Operating Accuracy Reflects the deviation control of negative pressure relative to the target value during operation.

Specification note

These are PCS target performance values. The measurement point, ink, temperature, stabilization time, statistical window and acceptance method must be defined for the specific model and verified on the machine.

Fault codes provide a direction for troubleshooting

FWS turns monitored abnormal conditions into identifiable fault messages to help service staff locate problems quickly.



Four steps from alarm to recovery

01 / CODE

Fault code

Display an explicit code for each monitored abnormal condition.

02 / GUIDE

Where to check

Service staff use the code and status information to narrow the investigation.

03 / ACTION

Targeted repair

Check and repair the relevant function path instead of dismantling parts without a diagnosis.

04 / VERIFY

Verify after repair

Confirm that the alarm has cleared and negative-pressure and temperature-control status have returned to normal.

The fault coverage and code list are defined by the FWS version delivered with the system.

Negative pressure, temperature control and circulation work together

PCS combines negative-pressure control, staged temperature control and two-stage anti-settling circulation in one system.

Negative pressure management	Manage negative pressure using the setpoint and measured feedback.
Multi-Stage Temperature Control	Coordinate temperature-control stages to maintain ink-path operating temperature.
Primary Ink Tank	Circulate and agitate ink in the tank to reduce settling during idle periods.
Secondary Ink Cartridge	Refresh ink through cartridge circulation to reduce localized settling.
Fault Response	Include relevant status and faults in FWS alerts and maintenance procedures.

Anti-settling circulation has a distinct role from CCS

PCS circulates ink in the primary tank and secondary cartridge to refresh the supply side and reduce settling. This is different from the internal printhead circulation provided by CCS. Choose the system according to the ink, printhead and application.

06 / Machine-wide coordination

Centralized management from main tank to enclosure

PCS also manages ink levels, supply to two printhead modules, overflow protection, printhead cleaning and enclosure cooling.

01 / MAIN TANK

Main ink-tank level

Monitor the main tank level to support refilling and operating prompts.

02 / TWO MODULES

Two-module ink supply

Coordinate supply and level status for two printhead modules.

03 / OVERFLOW

Ink overflow alarm

Trigger an FWS fault message when a monitored ink overflow is detected.

04 / SAFETY

Safety cartridge overflow protection

Include safety-cartridge overflow status in protection and fault handling.

05 / CLEANING

Positive-pressure cleaning management

Control positive-pressure printhead cleaning and recovery according to the maintenance procedure.

06 / COOLING

Enclosure cooling management

Monitor enclosure cooling status as part of stable equipment operation.

PCS coordinates these functions and provides prompts for relevant faults. The monitoring points, interlocks and alarm codes depend on the delivered configuration.

InkLink makes PCS status easier to see

The companion software displays parameters, operating status, fault codes and maintenance functions for on-site use.

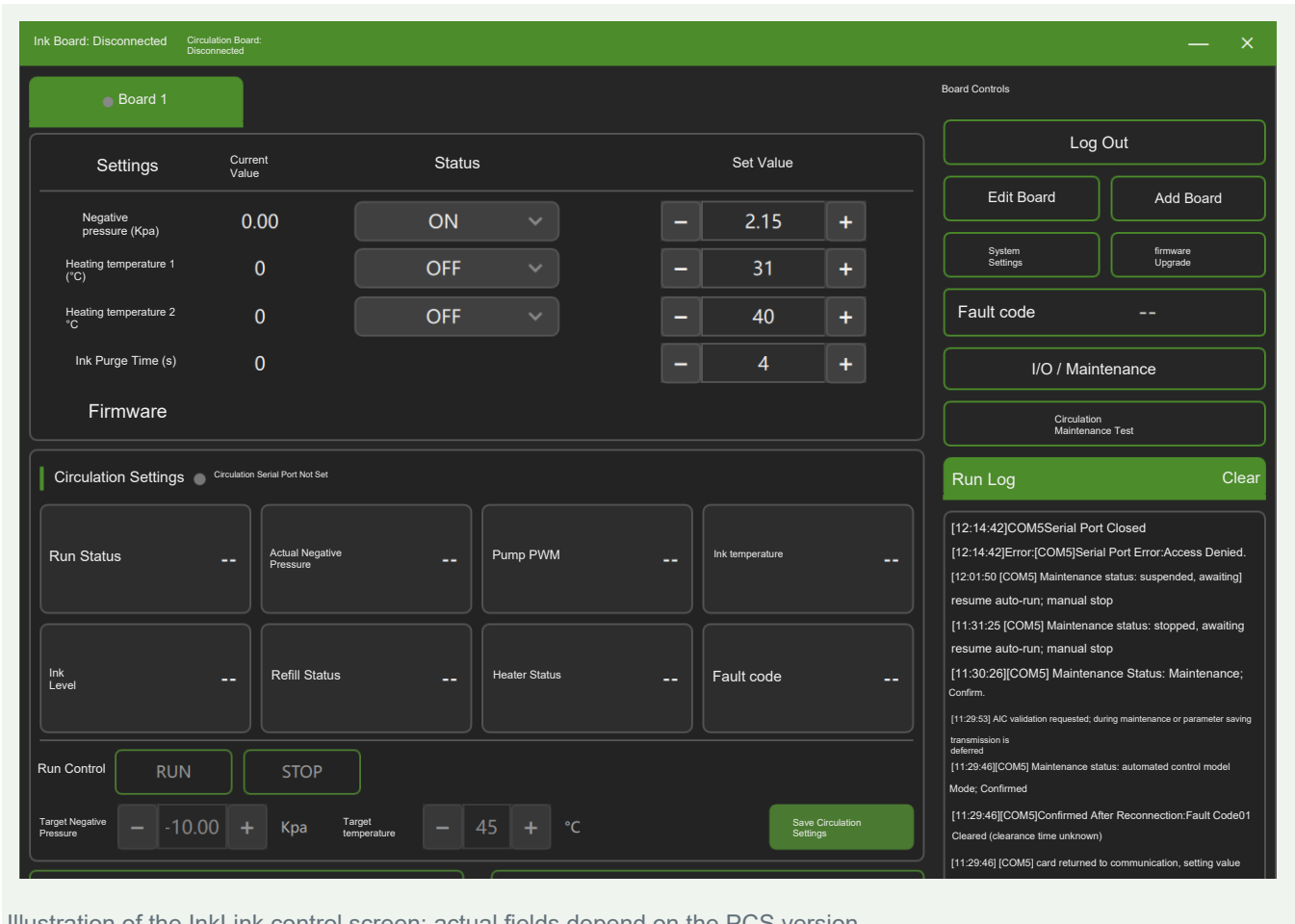


Illustration of the InkLink control screen; actual fields depend on the PCS version.

01 / OVERVIEW

Status overview

View setpoints, actual feedback, alarms and operating logs on one screen.

02 / MAINTENANCE

Maintenance functions

Access adjustment, self-check and recovery functions according to permissions.

Update functions and extend the equipment's useful life

PCS firmware supports remote updates, providing a software route for future improvements and changing production needs.

01 / REMOTE

Remote update

After an authorized connection, deploy a compatible firmware version remotely.

02 / FEATURE

Function expansion

Add control and maintenance functions within the limits of the hardware.

03 / SERVICE

Reduce service effort

Some fixes and function changes can be delivered through firmware updates, reducing on-site upgrade work.

04 / LIFECYCLE

Extend the service life

Existing equipment can gain improvements through updates, reducing the need to replace it solely for new functions.

Keep existing equipment useful as production needs change

When requirements change, first assess whether firmware can add the function. Remote updates require network access, authorization, version compatibility and a rollback plan. Requirements beyond the hardware's capability still need configuration changes.

Finalize the system for the ink, printhead and workstation

Verify accuracy, temperature-control stages, alarm coverage and maintenance procedures for the specific application.

Application Conditions	Ink, printhead type, target negative pressure and working temperature.
Accuracy Verification	Measurement points, sampling method, stabilization time and deviation statistics window.
Temperature control and circulation	Temperature zones, tank agitation and secondary-cartridge circulation configuration.
Machine Functions	Two-module ink supply and level control, overflow protection, positive-pressure cleaning and cooling.
FWS and Upgrade	Fault codes, network permissions, firmware version and rollback method.

Recommended sample validation

Use machine operating records to verify negative-pressure accuracy, temperature-control status, alarm response and recovery procedure.



Product enquiries: 0574-87296000