DNC-T2010-R20

01 / Identify the installed system and connections

AMETEK DNC-T2010-R20 is a ten-output pulse sequencer for bag-house dust-collector cleaning. The R20 version uses a retrofit mounting plate and replaces selected older DNC-T2010 timing controls within the documented electrical and wiring limits.

System position

DNC-T2010-R20 sequences external bag-house pulse valves; the valve bank, pressure switch, cabinet and AC supply remain separate installation components.

Before replacement work

Isolate the cabinet

Disconnect the AC input and valve circuits before touching terminals; an open cabinet can expose hazardous voltage.

Check supply quality

Do not power the controller from a converter or inverter; review high transient-voltage sites for the specified isolation transformer arrangement.

Match every valve load

Confirm solenoid voltage and apparent power against the solid-state 150 VA output rating and account for off-state leakage.

Work boundary

The model-specific timing and output-count values come from the AMETEK DNC-T2010-R20 replacement-chart row. Series operating logic and common electrical limits come from the AMETEK dust-collector controls sheet; confirm the existing panel and solenoid circuit before installation.

Legacy inventory

Record the original DNC-T2010-A10 or B10 code, panel cutout, pressure-switch arrangement and number of connected valves before removal.

Collector state

Record differential-pressure operating limits and whether cleaning is continuous or demand initiated.

Valve bank

Map each solenoid to its numbered output and identify unused positions before disconnecting the old unit.

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02 / Capture settings and field connections

The exact replacement-chart row specifies 0.050–0.600 s on time and 1–999 s off time for DNC-T2010-R20. The broader family brochure describes the sequencer operation, three-button programming and a three-digit LED display; keep the exact R20 chart range when setting this part.

On-time setting	0.050–0.600 s for DNC-T2010-R20
Off-time setting	1–999 s
Output sequence	Advances from first to selected last output
Output type	Solid-state switching
Maximum output load	150 VA per output
Off-state leakage	1.5 mA maximum
On-state voltage drop	1.5 V maximum
Power consumption	6.30 VA maximum plus connected load

Configuration record

Record the old controller code, terminal labels, valve count, AC supply, pressure-switch links, on/off timing and selected last output before the change. Keep this with the collector maintenance record.

Settings transfer

Write down the original on time, off time and final selected output. Transfer settings only within the exact R20 limits.

Supply record

Measure the AC supply at the control terminals and document frequency and protective-device arrangement.

Load record

Record valve-coil voltage and VA demand per output. Check whether leakage can affect the installed coil or test circuit.

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03 / Replace and reconnect

Isolate the cabinet

Disconnect the AC input and valve circuits before touching terminals; an open cabinet can expose hazardous voltage.

Check supply quality

Do not power the controller from a converter or inverter; review high transient-voltage sites for the specified isolation transformer arrangement.

Match every valve load

Confirm solenoid voltage and apparent power against the solid-state 150 VA output rating and account for off-state leakage.

Preserve switch behavior

Record the high/low pressure-switch contacts and factory jumper position before removing the prior controller.

Mount in a suitable enclosure

Use the R20 retrofit hole pattern and a protective cabinet where dust, corrosion or vibration require it; avoid high-vibration mounting without shock mounts.

Test the sequence

Run the controller test mode and prove each selected valve, on interval, off interval and demand stop before normal service.

Installed-system check

The AMETEK replacement chart lists DNC-T2010-R20 as the retrofit successor for DNC-T2010-A10 and B10 variants. Its universal 95–265 VAC supply and programmable 1–10 output selection let one controller cover the documented legacy timing ranges, provided the load and wiring are checked against the installed collector.

When high-pressure contacts close, the selected valve energizes for the on interval and remains off for the programmed off interval before the next selected output. Opening the contacts during an on interval completes that pulse. The unit is shipped with a jumper across the high-pressure switch input; confirm whether the installed collector uses continuous or demand cleaning.

Retrofit fit

Compare the R20 plate with the panel opening and maintain clearance from high-voltage conductors.

Switch contacts

Trace the high, common and low pressure-switch connections; do not leave the factory jumper in place by habit.

Start sequence

Check the first controlled pulse with the valve bank isolated or under an approved controlled test condition.

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04 / Commission each circuit

How does DNC-T2010-R20 differ from a DNC-T2010-020 mounting arrangement?

The R20 version uses a retrofit mounting plate for older DNC-T2010 positions. Check the existing hole pattern and enclosure clearance; the 020 standard plate should not be assumed to fit the same opening.

What must be checked before DNC-T2010-R20 replaces an A10 or B10 controller?

Confirm the old full code, AC supply, solenoid voltage and load, terminal schedule, valve count and pressure-switch arrangement. Then restore the required on/off timing using the R20 range shown in AMETEK's replacement chart.

How is the last active valve selected on DNC-T2010-R20?

Use the Select control to reach the last-output parameter, then set the connected valve count from 1 through 10 with Up or Down. Verify that the sequence wraps to output 1 after the selected last output.

Why may DNC-T2010-R20 run continuously without a pressure-switch demand?

AMETEK ships the control with a jumper across the high-pressure switch input. A closed high-pressure input allows continuous cycling, so compare the jumper and switch contacts with the collector operating plan.

What happens if the pressure-switch contacts open during a DNC-T2010-R20 pulse?

The active output completes its programmed on interval. Cleaning then stops; on the next high-pressure closure, the sequencer advances to the next output in the selected sequence.

Acceptance evidence

Retain the accepted timing settings, controller status and final valve-to-output map with the collector service record.

Test sequence

Prove the first and last output, wrap to output 1 and pressure-demand stop. Record valve responses.

Timing observation

Measure the on and off intervals during operation; compare them with the programmed values and collector plan.

Fault response

Investigate a skipped valve through its output, coil, common return and supply before changing timing settings.

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05 / Fault isolation and handover

How can individual DNC-T2010-R20 outputs be checked during maintenance?

Enter the documented test mode from normal operation, select each output with Up or Down and use Select to pulse it for the configured on time. Isolate the process and follow the site valve-test procedure.

Why should an LED or high-impedance test input not be used alone to judge a DNC-T2010-R20 output?

The solid-state output has specified off-state leakage of up to 1.5 mA. Verify a suspected output with the actual compatible load or an approved test method, and check the valve wiring and supply first.

Which timing limits apply to the exact DNC-T2010-R20 retrofit model?

The DNC-T2010-R20 row in the replacement chart gives 0.050–0.600 s on time and 1–999 s off time. Use those exact-model limits when transferring settings from the older A10 or B10 device.

Technical basis: AMETEK National Controls Corp., Dust Collector Controls, AC Input, Pulse Cleaning of Bag House Dust Collectors, 618PDF (240037), and DNC-T2003 through DNC-T2032 replacement chart.

Service record

Retain the wiring comparison, final timing settings, valve count, test results and removed-control condition.

Escalation path

If the pressure switch does not govern cleaning, inspect contact state and jumper before diagnosing the sequencer.

Handover limits

State the selected valve count, accepted pulse timing and unresolved field faults in the maintenance record.

Spare identity

Keep the R20 retrofit identity distinct from the standard 020 mounting variant on purchasing and spares lists.

Technical enquiry

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