B&R X20DC2395

01 Function and selected configuration

Product function

B&R X20DC2395 shares its terminal resources between several motion and pulse functions, allowing one station position to handle a selected mixture of input and output tasks.

Selected configuration

The four channels can serve one SSI absolute encoder, one ABR incremental encoder, two AB encoders or four event counters. Two channels can additionally operate as outputs; the maximum counts describe alternative allocations, not independent simultaneous capacities.

Functional path

Encoder or pulse	Shared input channels	Counter/time engine	X20 data or PWM

Digital channels	4 inputs, 2 also configurable as outputs
Incremental input	24 V asymmetrical; up to 100 kHz
SSI interface	1 encoder; up to 125 kbit/s

Incremental inputs accept 24 V asymmetrical signals at up to 100 kHz. SSI uses Gray or binary coding at up to 125 kbit/s. The module-internal encoder supply provides up to 600 mA and is protected against short circuit and overload.

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02 Technical operating envelope

Digital channels	4 inputs, 2 also configurable as outputs
Incremental input	24 V asymmetrical; up to 100 kHz
SSI interface	1 encoder; up to 125 kbit/s
SSI coding	Gray or binary
Counter size	16/32-bit
Encoder supply	Module-internal; 600 mA maximum

Output current	0.1 A per channel; 0.2 A total
Output modes	Push, pull or push-pull
PWM period	41.6 microseconds to 1.36 s
PWM duty resolution	0.1%
Input voltage	24 V DC -15%/+20%
Internal I/O power	1.4 W

Maximum encoder, counter and PWM counts are alternative allocations of shared terminals.

Signal interpretation

Incremental inputs accept 24 V asymmetrical signals at up to 100 kHz. SSI uses Gray or binary coding at up to 125 kbit/s. The module-internal encoder supply provides up to 600 mA and is protected against short circuit and overload.

Interface boundary

The two outputs support push, pull or push-pull operation at 0.1 A each. Input edge events can control outputs directly; preserve the channel allocation, pulse period and electrical load before restoring an event-driven machine function.

How much current can the two X20DC2395 outputs supply?

Each output is rated 0.1 A, with 0.2 A total nominal output current. The actual load and switching conditions must also meet the output limits.

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03 System integration and applications

Incremental position acquisition

Read AB or ABR encoders using the configured counter and evaluation mode.

SSI absolute position

Acquire Gray or binary absolute position through the single SSI interface.

Pulse and timing analysis

Measure event counts, periods or offsets between selected channel edges.

PWM actuation

Generate two configured PWM signals when the shared channel allocation and load limits allow it.

System and supply context

The counter module is applied in the Encoder or pulse / Shared input channels / Counter/time engine / X20 data or PWM arrangement. Select associated equipment for the actual channel or installation.

Application boundary

Maximum encoder, counter and PWM counts are alternative allocations of shared terminals. The examples below address the stated product function.

Which absolute encoder formats can X20DC2395 read?

The SSI interface accepts Gray or binary coding with a 32-bit counter size and a maximum transfer rate of 125 kbit/s.

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04 Engineering selection decisions

Can X20DC2395 run four event counters and two independent PWM channels at once?

The functions share four physical channels, and two channels can be outputs. A mixed arrangement must respect the terminal allocation; the maximum function counts are not additive.

What is the incremental encoder frequency limit of X20DC2395?

The 24 V asymmetrical incremental inputs support up to 100 kHz with fourfold evaluation.

Can an input event operate a X20DC2395 output without a normal application write?

Yes. Output setting and clearing can be controlled by events as well as by the application, provided that the selected channel functions are configured consistently.

Why must all X20DC2395 signal cables be shielded?

Shielded signal wiring is required for the counter and encoder interfaces. Preserve the shield arrangement to avoid false edges or corrupted encoder acquisition.

Preserve incremental direction	Mark A, B and reference signals before disconnecting.
Limit the output load	Check each output against its 0.1 A nominal rating and the 0.2 A total.

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05 Configuration boundary and references

Lifecycle and support

The current manufacturing and factory-support phase of X20DC2395 is unconfirmed.

Replacement assessment

Preserve digital channels 4 inputs, 2 also configurable as outputs, incremental input 24 V asymmetrical; up to 100 kHz, ssi interface 1 encoder; up to 125 kbit/s. Check digital channels and incremental input against the installed configuration.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains selection and system context. The separate installation guide covers preparation, connection, tests and handover; use it together with the applicable manufacturer instructions.

Technical basis

B&R X20(c)DC2395 Data sheet V3.30.

Related product navigation

- B&R X20AI2237
- B&R X20AT6402

These are related references, not confirmed substitutes or an automatically approved assembly.

Product enquiries