

B&R X20DC4395

Encoder Counter Module

B&R; X20DC4395 is a multifunctional 24 V encoder and counter module that can combine SSI, ABR, AB or event-counter inputs. Four outputs also support pulse-width modulation for position, speed, event and timing functions in an X20 station.

IDENTITY	VERIFIED VALUE
Manufacturer	B&R;
Complete model	B&R; X20DC4395
Product role	Encoder Counter Module
System family	X20 System
Country of origin	Austria

DOCUMENT SCOPE

Exact identity, manufacturer-supported technical data, installation checks, applications, precautions and controlled verification records.

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B&R X20DC4395

Technical Specifications

PARAMETER	VERIFIED VALUE
Module supply	24 VDC -15% / +20%
SSI encoder capacity	2 absolute encoders
ABR encoder capacity	2 incremental encoders
AB encoder capacity	4 incremental encoders
Event counter capacity	8 counters
PWM outputs	4
Encoder input level	24 V asymmetrical
Incremental input frequency	100 kHz maximum
Counter size	16 or 32 bit
Encoder supply	Module internal, 600 mA maximum
B&R; ID code	0x1CC5
Bus power consumption	0.01 W
Internal I/O power	1.5 W
Protection rating	IP20

Model-Specific Engineering Note

ENGINEERING BOUNDARY

Install B&R; X20DC4395 with X20TB12 and X20BM11 or X20BM15, using shielded signal lines for every encoder connection. Record the selected SSI, ABR, AB, counter and PWM mix, then prove scaling, direction, timestamps and output duty under controlled motion.

Pre-Installation Checks

NO.	REQUIRED CHECK
1	Confirm the complete B&R; X20DC4395 marking and every assigned encoder, counter and PWM channel.
2	Secure all moving axes and remove field energy before disturbing feedback wiring.
3	Use X20TB12 with X20BM11 or X20BM15 and verify keyed module placement.
4	Use shielded signal lines for all encoder and counter connections as specified by B&R.;
5	Record whether each input is SSI, ABR, AB or event-counter mode before replacement.

System Role and Architecture

B&R; X20DC4395 is a multifunctional 24 V encoder and counter module that can combine SSI, ABR, AB or event-counter inputs. Four outputs also support pulse-width modulation for position, speed, event and timing functions in an X20 station.

FUNCTION 1

Mixes SSI, ABR, AB and event-counter functions in one module

FUNCTION 2

Evaluates up to four 24 V asymmetrical incremental encoders

FUNCTION 3

Provides four outputs for pulse-width modulation duties

FUNCTION 4

Supports timing and relative timestamp functions for event correlation

Common Applications

APPLICATION	ENGINEERING CONTEXT
Multi-axis encoder acquisition	B&R; X20DC4395 collects SSI or incremental position signals from the documented machine axes.
High-speed event counting	Eight counter functions capture discrete production or machine events with configured timing.
PWM actuator command	Four outputs generate documented pulse-width-modulated commands alongside encoder feedback.
Position and speed retrofit	Flexible SSI, ABR and AB modes consolidate several legacy feedback types in one X20 slice.

CONTROLLED ACCEPTANCE DUTY

Confirm identity, physical interface, companion hardware, configured values and functional response against the installed-system record before release.

Engineering Precautions

NO.	PRECAUTION
1	Confirm the complete B&R; X20DC4395 marking and every assigned encoder, counter and PWM channel.
2	Secure all moving axes and remove field energy before disturbing feedback wiring.
3	Use X20TB12 with X20BM11 or X20BM15 and verify keyed module placement.
4	Use shielded signal lines for all encoder and counter connections as specified by B&R.;
5	Record whether each input is SSI, ABR, AB or event-counter mode before replacement.
6	Verify 24 V encoder-supply loading remains within the module limit and check short-circuit protection.
7	Preserve counter size, evaluation direction, timestamp and PWM configuration from the approved project.
8	Commission under controlled motion and prove position, direction, frequency, counts, timing and PWM duty before release.

Model-Specific FAQ - Part 1

QUESTION	ANSWER
Which encoder types can B&R; X20DC4395 connect?	The module supports two SSI absolute encoders, two ABR encoders, four AB encoders or eight event counters, and the functions can be mixed.
What is the maximum incremental input frequency of B&R; X20DC4395?	B&R; specifies a maximum of 100 kHz for the 24 V asymmetrical incremental encoder inputs.
How many PWM outputs does B&R; X20DC4395 provide?	Four outputs are available for pulse-width modulation and can be combined with the selected input functions.
What encoder supply is available from B&R; X20DC4395?	The internal 24 V encoder supply supports up to 600 mA and is short-circuit and overload protected.

Model-Specific FAQ - Part 2

QUESTION	ANSWER
Must B&R; X20DC4395 signal cables be shielded?	Yes. The official product data requires shielded lines for all signal connections.
Which counter widths are available on B&R; X20DC4395?	The module supports 16-bit or 32-bit counter operation according to the configured function.
How is B&R; X20DC4395 isolated?	The bus is isolated from encoder and output circuitry; encoder and output groups are not mutually isolated inside the field side.
How should B&R; X20DC4395 be accepted after replacement?	Exercise every configured encoder or counter mode, confirm direction and scaling, check timestamps, test PWM outputs and verify diagnostics under controlled motion.

Related Products on Apter Power

MODEL	APTER POWER PAGE
GE 0552N1QLG132A-06-V1-1	View GE 0552N1QLG132A-06-V1-1 page
GE 151X1202YE03SA04-IS200 STAIH2ADC	View GE 151X1202YE03SA04-IS200STAIH2ADC page
GE 151X1225DF01PC03RA	View GE 151X1225DF01PC03RA page
GE 151X1233DB02SA02	View GE 151X1233DB02SA02 page
GE 151X1235BC01SA41	View GE 151X1235BC01SA41 page
GE 269PLUS-100P-120	View GE 269PLUS-100P-120 page
GE 531X111PSHAPG3	View GE 531X111PSHAPG3 page
GE 531X111PSHARG1	View GE 531X111PSHARG1 page

MANUFACTURER SOURCE RECORD

Datasheet X20DC4395
B&R; version 3.30, 2024-10-14

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