



CAB-X

Cab Signal Generator

An advanced, PLC-based digital controller engineered to deliver high-current, low-frequency track signals with precision and reliability. Featuring a check-redundant safety architecture, the system ensures carrier frequency stability, maintains output within programmed limits, and provides consistent carrier on/off timing across all output levels – delivering dependable performance for safety-critical rail operations.



KB SIGNALING™

CAB-X Cab Signal Generator

Key Benefits

Safety Mechanisms

- Design employs check redundant logic for safe operation.

High Power

- Capable of driving long blocks with cab coded low frequency AC signals.

High Power Simple UI

- Provides push button setup and digital storage for all adjustments.

Diagnostics

- Contains built in fault checking and event recording to aid in troubleshooting.

Customer Benefits

Safety

Outputs are continuously monitored by the check redundant PLCs to assure:

- Coded signal shuts off when commanded
- Output is within user defined limits
- Output rate follows input code rate
- No other signal in the range of signal can be seen at the terminals of the cab signal generator
- The Output is disabled on detection of safety critical faults

Architecture

The CAB-X is designed with two PLCs in a redundant check configuration to support such vital operations as frequency, output level, and output correspondence to code input. CAB-X is designed to require very little set-up time and to reduce maintenance costs. The DC powered system offers superior waveform generation in a wide range of frequencies using multiple encoding interfaces.

General Description

The CAB-X is a wayside cab signal generator capable of producing either a steady AC signal or a modulated cab signal. It responds directly to cab code pulses from wayside logic controllers and is compatible with KB Signaling interlocking and signaling systems, as well as other code-transmitting relays.

The system can accommodate both low-and high-energy cab signal applications, and LED indicators provide easy monitoring of the system's power and signaling status.



Easy to Install and Maintain

This controller helps maintenance through a set of information available on the front panel display: health indications, faults, statuses, settings, and code rate.

The display can show also digital power level set point and setup option, to limit maximum voltage variation. At glance lamps indicate power on, cab signal active, code pulse and fault. An integral fault log is available.

Flexibility

Available in frequencies of 40 Hz, 60 Hz, 100 Hz, and 250 Hz. The CAB-X offers Current Limiting setup options to prevent overdriving in degrading ballast conditions. Non-Current Limiting setup options allow extended range where degrading ballast is not a concern.

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Specifications

Electrical	Operating voltage: 9 to 16 VDC Maximum Current Draw 10A Maximum power consumption 40W
Code Input Voltage	4 – 16 VDC considered “ON” 0 – 3 VDC considered “OFF”
Output	Maximum output 25W -40°C) Maximum: +160°F (+71°C)
Frequency Configurations	40 Hz; 60 Hz; 83.3 Hz; 100 Hz; 250 Hz

Operating Temperature	-40°F (-40°C) ÷ +160°F (+71°C)
Vibration and Shock	AREMA standard class C
Mounting Options	Wall or Shelf
Dimensions	(HxWxD) 14in. x 13in. x 7in .
Weight	30 pounds

Sample Performance

	End of Block Current required	Range at 2 ohm Ballast	Range at 6 ohm Ballast	Range at 10 ohm Ballast	Range at 30 ohm Ballast
40Hz	2A RMS	6000FT	10500FT	11000FT	13000 FT
60Hz	2A RMS	5000FT	9000FT	8500FT	10500FT
83Hz	1.8A RMS	5000FT	8000FT	8750FT	10000FT
100Hz	2A RMS	4000FT	6500FT	7000FT	8000FT
250Hz	2A RMS	2500FT	3500FT	3500FT	3800FT

Ordering Options

40 Hz CAB-X Unit 40 Hz Track Filter	PN:251449-0040A PN:800-080055-040
60 Hz CAB-X Unit 60 Hz Track Filter	PN:251449-0060A PN:800-080055-100
83.3 Hz CAB-X Unit 83.3 Hz Track Filter	PN:251449-0083A PN:800-080055-083

100 Hz CAB-X Unit 100 Hz Track Filter	PN:251449-0100A PN:800-080055-101
250 Hz CAB-X Unit	PN:251449-0250A



Contact your KB Signaling Business Development Manager
Call 1-800-825-7090, or Email us at kbsignaling.techsupport@knorr-bremse.com for more information today.

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