



# E1-Interface for Axle Counter



## SALIENT FEATURES

- Every set has a unique address.
- Redundant RS-232 port.
- Works on -48V DC.
- No requirement of PD MUX for Communication through OFC.
- Compatible with CEL's SSDAC, HASSDAC & Universal Axle Counter based BPAC using Multiplexer
- Auto changeover from OFC to Quad
- Potential free contacts available for data logger
- Inbuilt surge voltage protection

## ORDERING INFORMATION

- **DAC-E1** suitable for SSDAC (DACF-710A/P) and HASSDAC (DACF-720P) only.
- **BPAC-E1** suitable for Universal Axle Counter based BPAC with Multiplexer

## E1 INTERFACE FOR AXLE COUNTER

With Railways modernizing its communication network by adopting optical fibers for data communication, a need for working the Axle Counters using the OFC system was being felt. CEL's E1 Interface fulfils this need by allowing railways to use an E1-interface for the communication between its Axle Counter (Analog & Digital).

It allows Railways to migrate the axle counter communication (mostly for BPAC application) from quad cable to optical fiber system enhancing the quality of this communication. CEL's E1 Interface has been designed to work with CEL's Digital Axle Counter SSDAC (DACF-710P), HASSDAC (DACF-720P) & for Universal Axle Counter based BPAC using Multiplexer for Double Line & Single Line operation. It uses all the safety factors required to work a safe axle counting system. It has inbuilt addressing scheme so that a both DAC-E1 & BPAC - E1 will communicate with its mated pair only. This reduces the risk posed by wrong configuration by the Telecom Service Provider on the safety of the systems being worked through it.

CEL's E1 interface comprising of DAC-E1 (for Digital Axle Counter ) & BPAC-E1 (for Analog Axle Counter) has inbuilt redundancy and allows use of other lease line/radio equipment for the communication through RS-232 port. Hence, communication redundancy can also be achieved by using E1 interfaces.

### CEL's Advantages:

- E1 interface has a redundant RS-232 output that gets activated when E1 channel is down. This can be used for designing redundancy in communication channel.
- If both E1 and RS232 channel goes down then communication will be resumed through quad cable.
- They ensures safety of axle counting system against misconfiguration by the Telecom Service Provider through an inbuilt addressing mechanism that allows only the mated E1 pairs to communicate with each other.



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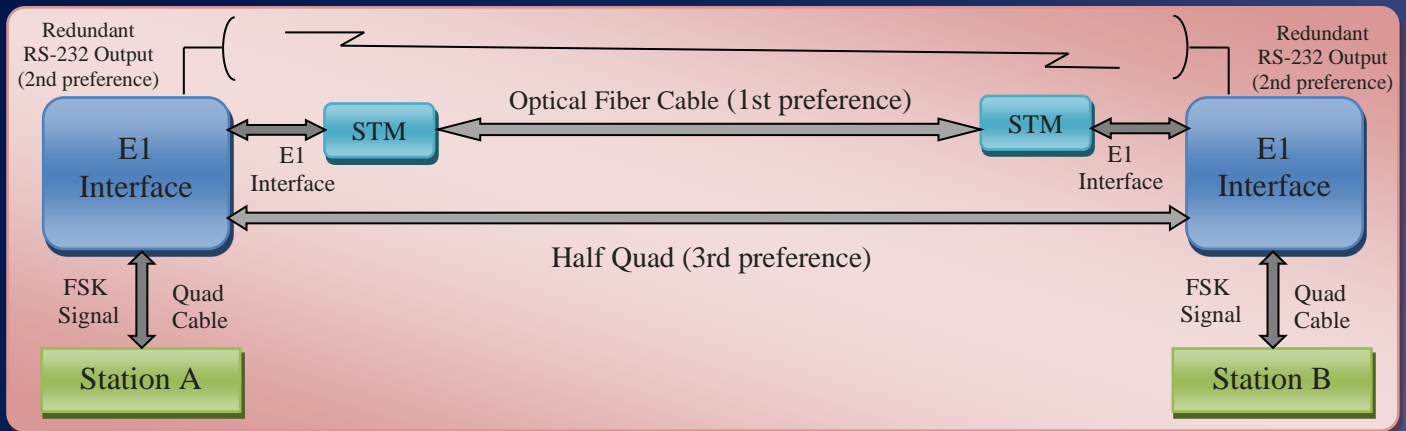


Figure 1: E1 interface for Axle Counter



Figure 2: Front and rear View E1 interface device

## Indications:

<b>PWR</b>	Glows in Power ON condition	<b>ERR</b>	Glows if E1 Error detected in E1-Data
<b>OFC OK</b>	Glows if OFC channel is detected	<b>TD</b>	Blinks on transmission of E1 Channel Continuous glowing indicates transmission on Quad
<b>LOS</b>	Glows on loss of signal	<b>RD</b>	Blinks on receiving on E1 Channel Continuous glowing indicates receiving on Quad

## Specifications:

<b>E1</b>	RJ-45 Connector, ITU-T G.703, 2.048 Mbps, HDB3 Encoding
<b>FSK</b>	Screw less connector, ITU-T V.21, 300 bps, Full Duplex
<b>RS232</b>	DB-9 Connector (Tx, Rx & GND), DCE
<b>Input Power</b>	-48VDC
<b>Power Consumption</b>	<5W
<b>Operating Temperature</b>	-10 °C to 70 °C
<b>Dimension</b>	1U 19" inch chassis
<b>Casing</b>	Mild Steel (CRCA)



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