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BVQi ISO 9001 · UKAS QUALITY MANAGEMENT

Serial Encoder Unit
Type CH034

Publication Number: PB128/0517

Application

The Serial Encoder Card CH034 is designed to be used in conjunction with serial controlled display units. The protocol used in the communication link between the display card and the encoder units are proprietary and subject to change without prior warning or notice.

The encoder has serial communication port, SER1, SER2 and SER3 and is installed in the lift machine room, next to the lift controller. It accepts signals like floor position code, directional arrows as well as lift status signals like MAINTENANCE, OVERLOAD, OUT OF ORDER etc. through 34 optoisolated inputs. The signals are then transmitted through SER1, which is a 4-wire serial communication link, to all the display units connected to it.

SER1 is normally used to transmit floor position, direction arrow and message data to the display units located at lift entrances, lift lobbies and other locations around the building. The display unit uses the data received to update the information on the display screen.

SER2 on the other hand is normally supplied as an RS232C port to allow easy programming of system via a computer. SER3 can be used to network and communicate with other encoders as well as to a remote computer. For these purposes SER3 can also be configured as an RS485/RS422 port instead of a RS232C port.

The data sent by the transmitter is categorised accordingly under the following groups:

Floor position/Direction Arrow: This is real time data indicating the position and direction of travel of the lift.

Fixed messages: are permanently programmed into the onboard firmware located in the EPROM and will be displayed when a corresponding trigger signal is activated to the CH034. Examples of these messages are lift status signals like "MAINTENANCE", "OVERLOAD", "FIRE, DO NOT USE LIFT", "RESERVED FOR VIP", "OUT OF ORDER", etc.

Variable messages: are impromptu messages entered by a user at a remote computer and are normally used to display information and advertisement. Examples of these messages are "SALES AT LEVEL 4", "BUFFET AT THE COFFEE HOUSE - LEVEL 2", "MERRY CHRISTMAS", etc.

Software for editing and sending messages to the encoder board is available.

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Specification
Power supply requirement for the encoder card is an absolute maximum of 10V to 30V d.c. or 10V to 27V a.c. Higher voltages are not recommended due to the high power dissipation which reduces the operating life of the components.

34 optocoupled trigger inputs with one common return. Signals can be an absolute maximum of 10V to 30V d.c. or 10V to 27V a.c. @20mA each. Typical input voltage allowed is 18V ± 6V a.c./d.c. Bar LED's next to inputs, indicate status of inputs.

Floor position code. Programmable to accept any form of floor position code. Example, binary code, gray code, seven segments code etc.

Two serial I/O ports SER3 and SER2. Typically one RS485/RS422 and one RS232C ports (factory default) are provided unless specially requested. One port is for interface to all the text displays and indicators (RS485/RS422 port). The other port is for interface to the PC computer (RS232C port). For a long distance line to a remote computer, RS485 is the preferred choice.

Three push button switches (SW1, SW2, SW3) together with a 2 digit 16 seg display and an 8 bar LED allow user to configure options and settings.

Customised software is used for creating, editing and sending variable messages to the CH034 transmitter cards which then download the received data to the display units at an appropriate time. The RS232 port can be used to make the change at the lift machine room using a computer. Changes can alternatively be done through the RS485 port from a remote computer.

EEC Directives
This component has been designed with due consideration to both BSEN81 parts 1 & 2 and the EMC Regulation BSEN12015 and BSEN12016 for incorporation in a lift application.

Fixed messages are permanently stored in the EPROM, these messages can still be changed at a later date by running a special program. Changes made to fixed messages are written to a non-volatile RAM (NVRAM) located on the CH034 so that it can be retained even when power to the card is removed. The RS232 port can be used to make the change at the lift machine room using a computer. Changes can alternatively be done through the RS485 port from a remote computer.
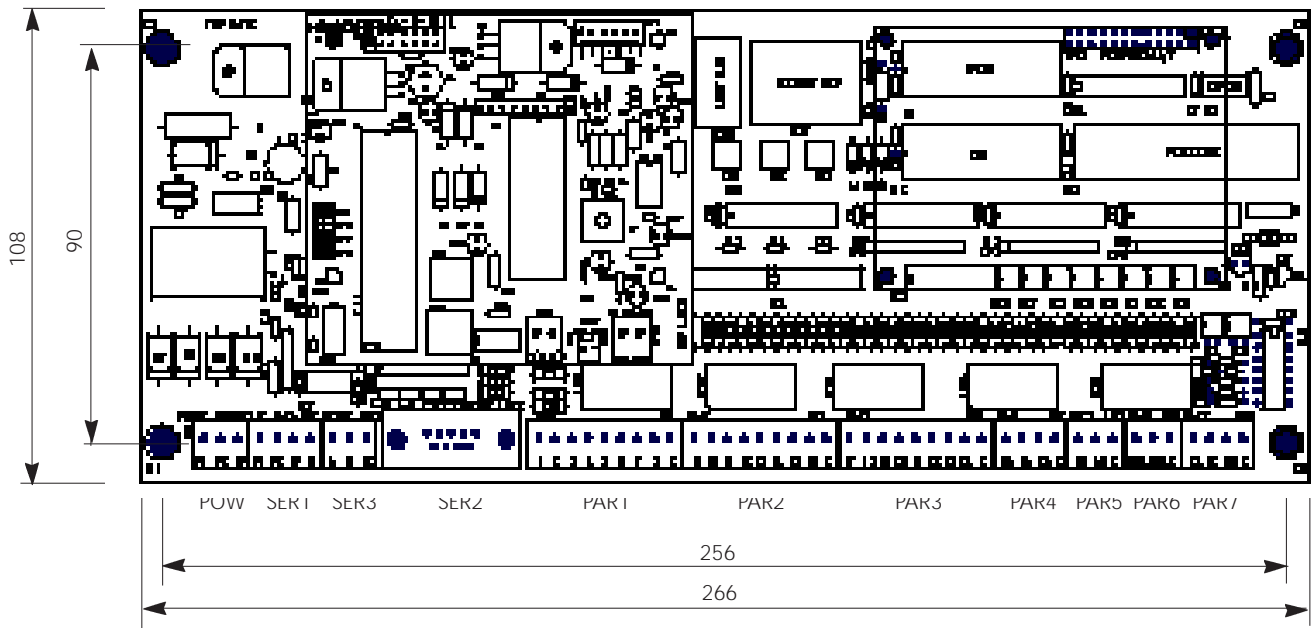
Encoder Capabilities
Subject to the capability of the associated Series Controlled Position Indicator Units, the table below details the maximum number of arrows, floor and text message features that can be programmed and triggered into the encoder and transmitted to the displays.

FEATURES AVAILABLE		TERMINAL ALLOCATION (34 AVAILABLE)
Floors: Encoded	1- 3	2
	1- 7	3
	1-15	4
	1-31	5
Floors: Discrete	1-32	1 each
Message Triggers:		1 each

FEATURES AVAILABLE	TERMINAL ALLOCATION
Up and Down Arrows	UA, DA (PAR4)
Up and Down Gongs	AU, AD (PAR5)
Up and Down Lanterns	UHL, DHL (PAR6)
Slow Down	SL (PAR7)
Door Close	DC (PAR7)
Door Open	DO (PAR7)

SM018 Speech Board plugged in here,
refer to Publication No: PB131

POW   SER1 SER3   SER2   PAR1   PAR2   PAR3   PAR4   PAR5 PAR6 PAR7

256

266

108

90

All dimensions in mm