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control – **motion** – interface

BY145

Supplementary Instructions for Replacement against BY 100/BY 140

BY 145 is a replacement unit for existing BY100 and BY140 synchronisers which is 100% compatible in terms of dimensions, connections and functions. This also means the BY 100 instructions are fully valid, with a few exceptions:

1. BY145 provides a maximum encoder frequency of 100 kHz (BY100 = 25kHz, BY140 = 100kHz).

2. BY 100 used an **8 position Dil switch** (S1) to adjust encoders and Reset/Inhibit lines for NPN or PNP operation.
BY 145 uses a **4 position DIL switch** (S1) and only the Reset and Inhibit lines can be adjusted to NPN or PNP characteristics, whilst the encoder inputs are always NPN. This means, that encoders with NPN open collector outputs or those with Push/Pull outputs can be used, but encoders with PNP open collector outputs are not suitable to operate with a BY 145 unit.

The table shows how to set the Reset and Inhibit inputs by S1:

	NPN	PNP
Reset	3 OFF, 4 ON	3 ON, 4 OFF
Inhibit	1 OFF, 2 ON	1 ON, 2 OFF

Notes:

a) Do not set positions 1 and 2 or positions 3 and 4 to ON at a time!

b) Like with BY 100, Reset and Inhibit are „active low“. With PNP setting you must apply a positive voltage to both inputs to operate the unit.

3. DIL switch S2 (4 position) provides exactly the same function as with BY 100/140

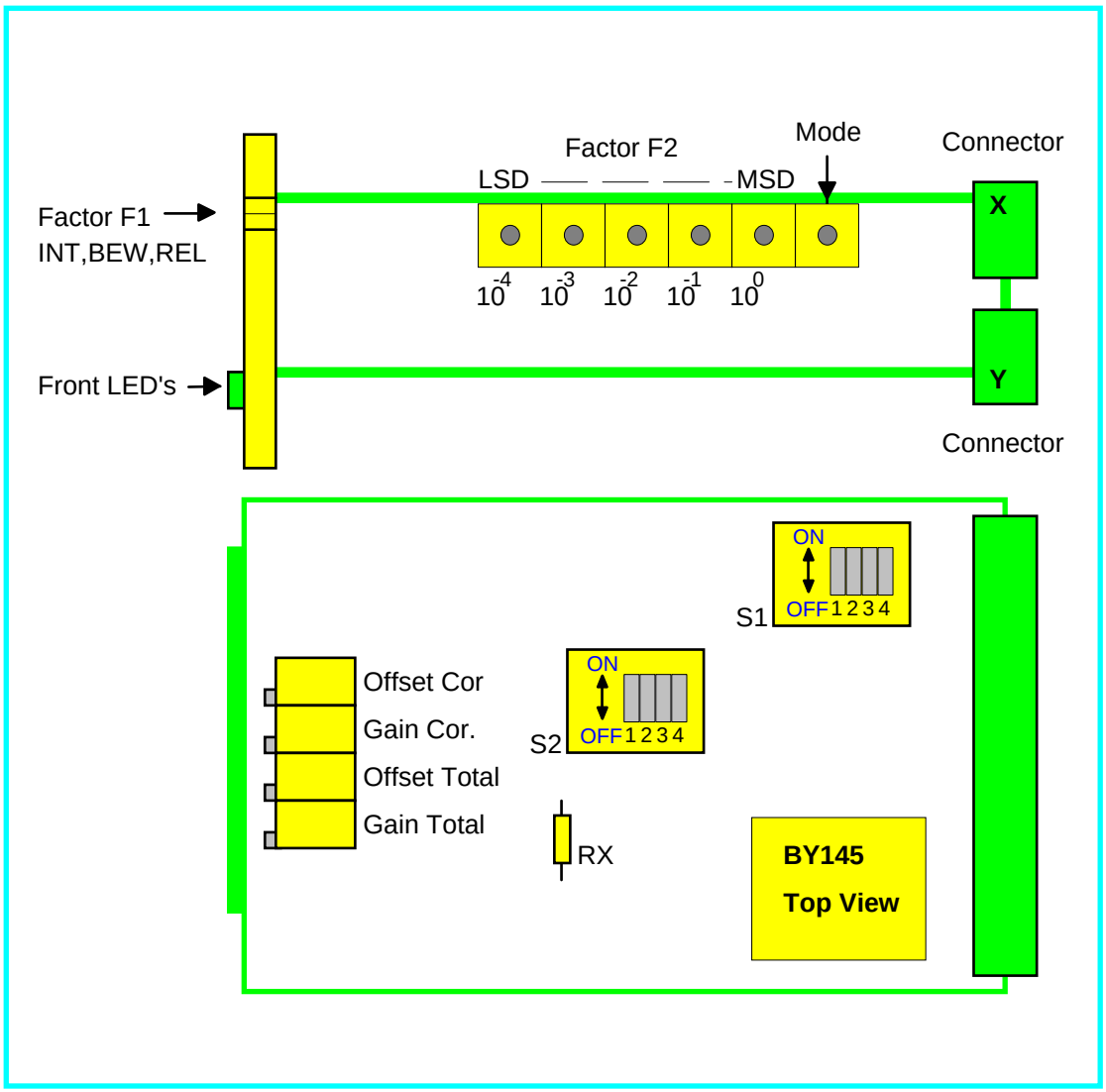
	Channel A (single)	Channels A/B (quadrature)
Master Encoder	1 ON, 2 OFF	1 OFF, 2 ON
Slave Encoder	3 ON, 4 OFF	3 OFF, 4 ON

4. With BY 145, the setup switches „INT“, „BEW“ and „REL“ are located at the front and not at the upper side of the print. Switch location is similar to BY140 and different from BY100.

5. BY145, upon power down, will not store the last remote setting of Factor F1. It is necessary to activate F1 after power up, by a Reset or Inhibit impulse, when remote setting is used.

6. Whilst BY100 and BY140 were available with a 20mA current loop serial link (optional), BY145 can only be supplied with RS232 interface (optional).

7. The input impedance of the parallel interface has been reduced to 10K Ω on each line (BY100 and BY140: 100k Ω)


Factor F2
Mode
Connector
LSD
MSD
Factor F1
INT,BEW,REL
10-4 10-3 10-2 10-1 100
X
Y
Front LED's
Connector
ON
OFF 1 2 3 4
S1
Offset Cor
Gain Cor.
Offset Total
Gain Total
ON
OFF 1 2 3 4
S2
RX
BY145
Top View