

ENCODER SETTINGS OF NCT MOTORS NCT ELECTRONIC DEVICES DOCUMENTATION

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VERSION HISTORY

VERSION NUMBER	NAME	DESCRIPTION
100	BT	Preview version
101	BT	Modifying figure 2 and description

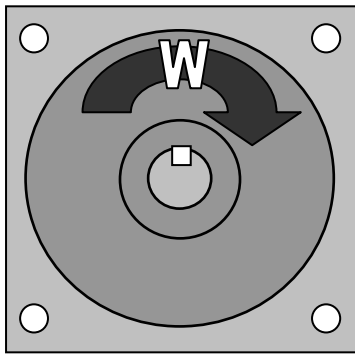
PREFACE

This document is the settings manual of the Heidenhain EQN-1325 and EQN-1337 encoder types when used with permanent magnet synchronous servo motors.

NCT Industrial Electronics Ltd.

1 THE SETTING AND EQUIPMENT OF HEIDENHAIN EQN1337 ÉS EQN1325 ENCODERS

1.1 THE SETTING AND INSTALLATION OF THE ROTARY ENCODER

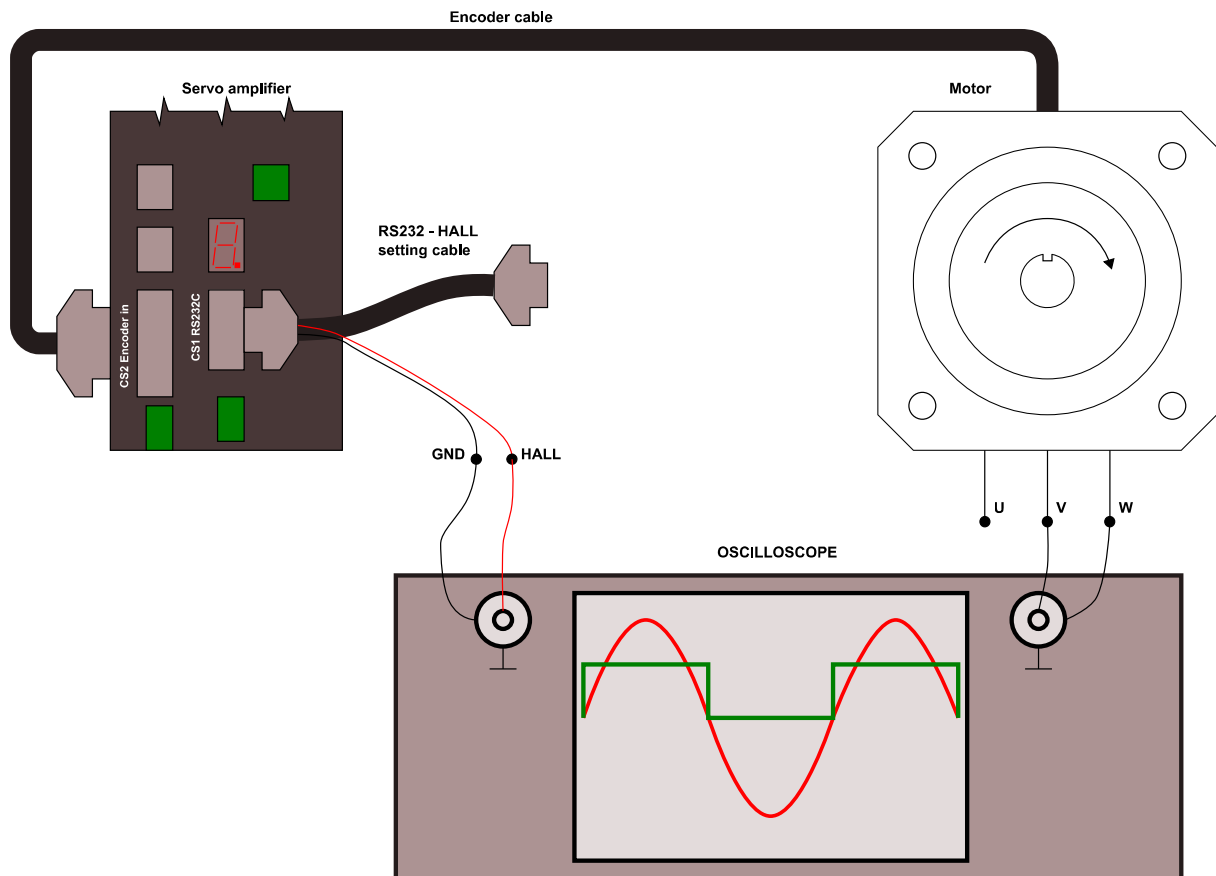


1. picture

Determining the phase sequence of the coils

Before installing the encoder on the motor, the phase sequence of the coils have to be determined, following these instructions:

The end of one of the coils is labelled as “U” phase, to which the negative pole (approximately 5 V voltage is set) of the power unit has to be connected. Then take turns/alternate at connecting the positive pole to the ends of the other two coils, observing when the axis shifts and in which direction. Looking at the motor from the front the coil end where the axis turns counter clockwise when connected is the “V” phase, where it turns clockwise is the “W” phase. (1. picture)



2. picture The setting of Endat encoder

After determining the phases, disconnecting the power unit and connect the oscilloscope probe to motor terminal: measure (hot) point to V and ground to W.

Select the P-0-0086 Motor pole pair parameter from the drive parameters (according to the motor data plate) and set it.

Assemble the measuring arrangement according to the 2nd picture.

Then steadily turn the motor axis (with hand or others) in the clockwise direction. In the drive with the help of the function a signal is artificially generated based on the information provided by the Endat encoder, this commutation signal is emulated. Hereafter this signal is called HALL signal. On the oscilloscope the HALL signal and the signal of the coiling's sinusoidal inducted voltage can be seen together. The setting is suitable, when the HALL signal properly encircled the positive half-wave signal of the sine signal. The encoder has to be turned, until it can be seen, after the setting fix the encoder.

1.2 Dx-xx/xx-EE ASSIGNING ENDAT CONNECTOR FOR THE DRIVES

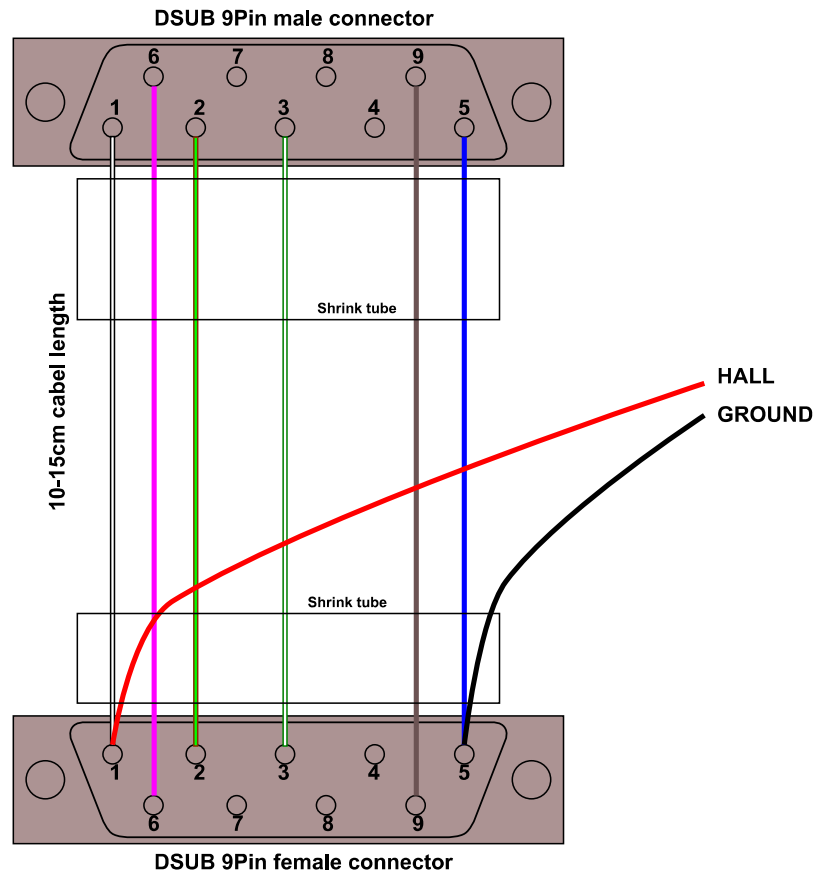
Connector:	1		2		3		
	12 pin PCB connector		Motor connector	12P female (12PRF)	15P Dsub male		
Up	1b	brown/green	2	Brown/green	5	+5V	
Sensor Up	6a	blue	8	Blue	14	+5V	
Data +	6b	grey	3	Grey	15	DATA+	Twisted pair
Data -	1a	pink	4	Pink	13	DATA-	
0V	4b	white/green	1	white/green	2	GND	
Clk -	5a	yellow	6	Yellow	12	CLK-	Twisted pair
Clk +	2b	purple	7	Purple	4	CLK+	
Sensor 0	3a	white	5	White	11	GND	
	Body	Shield	Body	Shield	Body		
- Place of connection:	Encoder		Motor		Servo		

Shielding: on the body

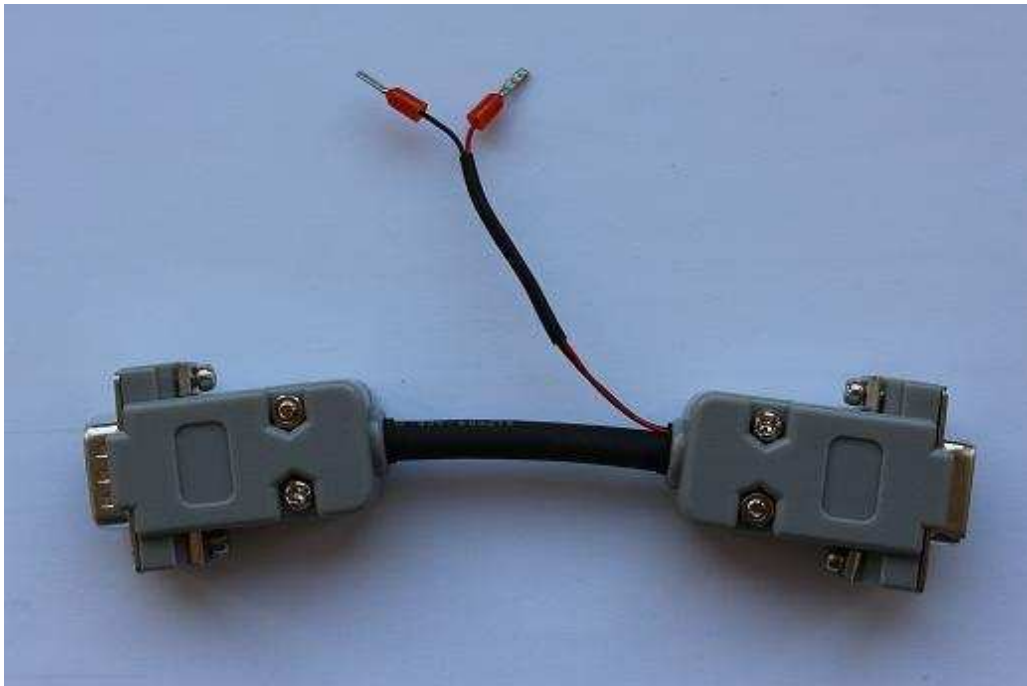
Only the cable types listed below (or cables with the exactly same electrical properties) can be used for cabling.

The Heidenhain identification number on the cable: Heidenhain AWM STYLE 20963 80 C 30V E63216

1.3 TESTING LEADS



3. picture RS232 -Endat HALL cable



4. picture RS232-HALL cable