CHIP READER
DALLAS

type DSRS2130

$C\!E$

www.aterm.cz

1.   Introduction

This product has been designed according to actual state of the engineering, and corresponds to a valid European and national standards and directives. The product is corresponding with the relevant standards. All declarations and documents are deposited at the producer.

The product has a corresponding level of electromagnetic resistance to his ability of undisturbed running in the usual environment.

You should read this documentation, before you start using this product.

The producer doesn´t take responsibility for damaging device and accidents caused to individuals, which result from the incompetent manipulation. The producer also isn´t responsible for damaging property and casualties caused by incompetent manipulation with this product or by contravening safety regulations. For security reasons and reasons of registration (CE) you hasn´t to make any changes in its internal arrangement. The product is intended for using by persons with relevant qualification. Incompetent handling can damage product.

After the end of its working life, the product must be disabled or scrapped according to the laws. Protect your environment and deliver your product to the central collection electro-scrap or return to producer to ensuring its liquidation.

2. Generally about Dallas chips

Dallas identification chips are a product of Dallas Semiconductor. This is essentially a semiconductor memory enclosed in a 16mm diameter metal case. These memories contain a unique 48-bit code that allows unambiguous identification of the subject or person. The Dallas chips contain no power source and the information contained therein is transmitted to the reader at the moment of direct contact with the reading surface. Data transmission takes one wire and is very fast (20ms).

The advantage of the Dallas chips is their simplicity and favorable price. Compared to non-contact chips, they are more prone to contamination, as they have to be read with quality contact with the reading surface.

3. Chip reader DSRS2130

Chip reader type DSRS2130 is an electronic device that allows you to read the DS1990A chips and transfer 48-bit code to your computer via the RS232 serial line. As can be seen from the picture on the front side, this device is assembled from a contact reading surface mounted on a 48 x 40 x 22 mm plastic box. Next to the read contact is the LED indicator. To the computer, this device is connected with a 3m (max. 10m) cable ending with a 9-pin Canon connector.

The device is equipped with a single-chip microprocessor that provides reader code reading from the chip and immediately transfers data to the computer. This whole process is very fast and does not exceed 100 ms including receipt and basic code processing by computer.

The device does not need any external power supply. Power is provided directly from the computer's RS232 line.

4.   Serving the Dallas Chip Reader

Software for the DSRS2130 reader is available at http://www.aterm.com/Aterm.htm#Dalsi . There is an older version of the DOS operating system and a newer version for Windows operating systems. The DOS version includes the DS1990TS program. Once it is started, you need to enter the serial port number. Then, the **SetComPort** function sets the parameters of the serial port, and the chips reader power is turned on. The LED on the reader flashes three times. The program goes into a cycle in which it periodically tests the port state using the **CtiStavLink** function. If characters were received by the serial line, the **CtiDalas** function reads the received code and passes the program as the text string that is displayed on the monitor. Then there is a 100ms timeout, which is not necessary, but reading the chip code is so fast that if someone is shaking hands and interrupting and re-contacting the reader chip several times in succession, the computer reads this chip several times in a row. Every reading of the chip code is indicated by the LED on the reader. You can end the program by pressing the Q key. Finally, the **VypniPCRS** function is called to disconnect the power from the chip reader.

The software version of the Windows operating system contains two programs. In the "**TEST**" directory, programs for scanning the reader under W95 and above are stored. Serving the reader ensures the **Drv232.tpu** unit which includes the following functions:

function **CtiDalas**: Boolean;

Function **OpenPort**: Byte: Boolean;

Function **ZavriPort**: Boolean;

All functions return **True** if they were successful, otherwise it returns the **False** value. First, you need to open the serial port of the **OpenPort (n)** function, where **n** is the serial port number (for COM1 it is n = 1). Because the chip reader transmits the chip code immediately after reading, it is necessary to periodically test the serial port's revenue buffer.

This ensures **CtiDalas** function. If the received code is detected is to the variable :

KodCip: String [12];

saved the text string of the code of the read chip. After finishing the work, it is advisable to close the serial port of the *ZavriPort* function, which also turns off the power supply for the chip reader.

The second program is stored in the "*DSRS2130*" directory. There are three files. *DSRS2130.exe* is a user program that lets you read and store chips in a text file. The *DS2130.ini* file stores the serial port number that was used at the last start of the program. The text files of the read chips are stored in the *DS28D02M.txt* file. Each row of the file is first a chip number, then the time reading of the chip and finally the chip code. The file name is created automatically when the new day is started for the first time. The *DS28D02M* file was created on February 28th. If we exit the program and run it again on the same day, the new data will be stored at the end of the already created file, with serial numbers beginning again from 1.

5. Transfer protocol and PC connection

The reader sends eight characters in the format **"> K1 K2 K3 K4 K5 K6 127"** immediately after reading the chip code, where the character > is the initial character, the characters K1 through K6 are individual parts of the chip code, and the character 127 is the end sign of the transfer. Each of the six characters K1 through K6 contains two hexadecimal characters of the serial number of the DS1990 chip.

The transfer protocol is:

BaudRate = 9600Bd, ByteSize = 8, Parity = None, StopBit = 1.

Connecting the Canon9 connector is as follows:

Rx (2), Tx (3), DTR (4), RTS (7), GND (5).

The reader is powered from the RS232 interface, and the RTS wire is set to a high level and the DTR wire to a low level.

6. Technical parameters

Supply voltage: + 12V (RTS), -12V (DTR)

Communication speed: 9600Bd

Dimensions: 48 x 40 x 22mm (W x H x D)

Operating temperature: 5 to 40 ℃

Electromagnetic environment: level 2-protected environment

Service and production:

Aterm.cz

Ing.Radomír Matulík

Náves 7, 763 61 Pohořelice

Telefon: 603 217 899

E-mail: matulik@aterm.cz

Internet: http://www.aterm.cz

ES DECLARATION OF CONFORMITY

Producer: Aterm.cz
                   Náves 7, 763 61 Pohořelice
                   Czech Republic
                   IČO: 1 3 0 9 2 7 5 8
Product: Chip reader type DSRS2130.

The manufacturer declares under its sole responsibility that the product meets the above requirements of technical regulations and under the conditions specified by the manufacturer using safe.

Evaluation of conformity: Conformity assessment was carried out in accordance with §12, para. 3a) of the Act No.22/1997 Coll. as amended.

In accordance with Government Regulations:
č.17/2003 Sb., č.616/2006 Sb. a č.481/2012 Sb.

In accordance with the directives of the European Parliament and the Council: 2004/108/ES, 2006/95/ES a 2011/65/EU.

Harmonised standards: ČSN EN 61010-1, ČSN EN 61326-1.

CE marking: the year of first marking CE: 17
Technical documents: are deposited at producer.

Name: Ing. Radomír Matulík   Position: OSVČ

In: *Pohořelice*   Day:*30.8.2012*