R-IN32M3-CL

CC-Link IE Driver/Middleware Set for R-IN32M3-CL Release Note

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Rev.2.00
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Summary

This document describes the package contents and operating environment of this product.

Please be sure to read before use.

For details on how to use each sample software, middleware etc, please refer to the related documents below.

Related documents

R18UZ0003EJ****	R-IN32M3-EC User's Manual
R18UZ0005EJ****	R-IN32M3-CL User's Manual
R18UZ0024EJ****	R-IN32M3-CL Development Tools Startup Manual
R18UZ0011EJ****	R-IN32M3 Series Programming Manual (OS edition)
R18UZ0021EJ****	R-IN32M3 Series User's Manual (Board design edition)
R18UZ0009EJ****	R-IN32M3 Series Programming Manual (Driver edition)
R18UZ0007EJ****	R-IN32M3 Series User's Manual Periphral Functions
R18UZ0015EJ****	R-IN32 Series User's Manual CC-Link IE Field Intelligent Device station

Last four digits of document number(described as ****) indicate version information of each document.

Please download the latest document from our web site and refer to it.

Contents

1. Introduction

CC-Link IE Feild for R-IN32M3-CL The intelligent device station package is a software package that summarizes the sample applications of CC-Link IE Feild Intelligent Device Station using R-IN32M3-CL.

This package is used in combination with driver and middleware package. please move CCLinkIE of this package to the \ Project of middleware / driver and use it.

2. Package Contents

The sample applications, libraries, middleware, and peripheral function drivers included in this package are shown below.

- Sample application

No.	Sample application name
1	CC-Link IE for sample application

3. Folder structure

Folder structure of this package is shown below.

```
TOP
|-readme.txt
+-- CCLinkIE
|     |
|     +-- ARM
|     +-- GCC
|     +-- GX_works2 【Sample Project File for GX Works2】
|     +-- IAR
|     +-- root
|          |
|          +-- Japanese
|                |
|                +-- driver
|                      |
|                      +-- include
|                      +-- obj
|                      +-- src
|                +-- sample
|                      |
|                      +-- include
|                      +-- obj
|                      +-- src
|                +-- readme
+-- CCLinkIE_KIT
|     |
|     +-- CCLinkIE_sample
|          |
|          +-- CCLinkIE_sample
```

4. Operating environment

The operating environment of this package is shown below.

- Target device

R-IN32M3-CL

- Target board

R-IN32M3-CL TESSERA Board （TS-R-IN32M3-CL）

- Development environment
  - Compiler

    IAR Embedded Workbench for ARM 7.80
  - Debugger

    IAR Embedded Workbench for ARM 7.80
  - ICE

    I-jet/JTAGjet-Trace/J-Link/J-Trace (IAR)

5. Website and Support

Renesas Electronics Website
http://www.renesas.com/

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Change history

Version	Changes
V2.0.0 (2017/12/12)	[Changed] CCLinkIE/root/Japanese/driver/include R_IN32M3Driver.h R_IN32M3Function.h R_IN32M3Types.h CCLinkIE/root/Japanese/driver/src R_IN32.h R_IN32_Frame.h R_IN32_Interface. R_IN32C.h R_IN32C_Cyclic.c R_IN32C_Init.c R_IN32C_l.h R_IN32C_Library.c R_IN32C_MainState.c R_IN32C_PortState.c R_IN32C_R_IN32DInterface.c R_IN32C_Time.c R_IN32D.h R_IN32D_cyc.c R_IN32D_cyc_l.h R_IN32D_ihnd.c R_IN32D_ini.c R_IN32D_intr.c R_IN32D_intr_l.h R_IN32D_led.c R_IN32D_phy.c R_IN32D_phy_l.h R_IN32D_RcvCnt.c R_IN32D_RcvCnt_l.h R_IN32D_RcvPrm.c R_IN32D_RcvPrm_l.h R_IN32D_reg.c R_IN32D_reg_l.h R_IN32D_sub.c R_IN32D_sub_l.h R_IN32D_tran.c R_IN32D_tran_l.h R_IN32M3.h R_IN32M3_0.h R_IN32M3_1.h R_IN32M3_2.h R_IN32M3_3.h R_IN32R.c R_IN32R.h R_IN32S.c R_IN32S.h R_IN32T.h R_IN32T_ASIC.c R_IN32T_ASIC.h R_IN32T_Cmu.h R_IN32T_CmuNCycRcv.c R_IN32T_CmuOutLpBak.c R_IN32T_CmuSub.h R_IN32T_CmuSub3.c R_IN32T_Com.c R_IN32T_Com.h R_IN32T_Data.c R_IN32T_Data.h R_IN32T_FrmForm.h R_IN32T_MACIP.c

	R_IN32T_MACIP.h R_IN32T_RegChk.c R_IN32T_RegChk.h R_IN32T_RING.c R_IN32T_RING.h R_IN32T_TxFrame.c R_IN32T_TxFrame.h R_IN32U.h R_IN32U_Init.c CCLinkIE/root/Japanese/sample/include R_IN32M3Callback.h CCLinkIE/root/Japanese/sample/src R_IN32M3_Callback.c R_IN32M3_HWTest.c R_IN32M3_sample.c R_IN32M3_sample.h R_IN32M3_Transient.c R_IN32M3_Transient.h Improve the whole code. The changes in function are as follows. - Added server function (response) of the following transient transmission command. CC-Link IE Field specific transient transmission Option information acquisition SLMP Selected station information acquisition Communication test Cable test Memory read Memory write - Added client function (request) of the following transient transmission command. SLMP Memory read - Disabled node number and network number setting from master station.
V1.2.5 (2015/11/30)	The following type name of products correspond with "Revision 2" and the other type name of products with "Revision 1" - Revision 2 R-IN32M3-EC : MC-10287BF1-HN4-M1-A / MC-10287BF1-HN4-A R-IN32M3-CL : UPD60510BF1-HN4-A / UPD60510BF1-HN4-M1-A [Changed] /CCLinkIE/IAR/boot_norflash.icf /CCLinkIE/IAR/boot_serialflash.icf /CCLinkIE/IAR/iram.icf /CCLinkIE/ARM/Makefile /CCLinkIE/ARM/scat_boot_extrom.ld /CCLinkIE/ARM/scat_boot_iram.ld /CCLinkIE/ARM/scat_boot_sflash.ld /CCLinkIE/GCC/scat_boot_extrom.ld /CCLinkIE/GCC/scat_boot_iram.ld /CCLinkIE/GCC/scat_boot_sflash.ld There are two types of mapping files and startup routine in this sample software. One is for "Revision 1" (CPU access area limitation *notice) The other is for "Revision 1" (no limitation) Mapping file(*.ld) and startup routine (startup_RIN32M3.c) for ARM are updated. Before: The common area is assigned for stack and Heap. After: Dedicated area is assigned for Heap. Especially GCC, pleae use mapping file and startup toutine for same Revision. Mapping file for Revision 1

	r-in32m3_samplesoft/Device/Renesas/RIN32M3/Source/Templates/IAR/rev1 r-in32m3_samplesoft/Device/Renesas/RIN32M3/Source/Templates/GCC/rev1 r-in32m3_samplesoft/Device/Renesas/RIN32M3/Source/Templates/ARM/rev1 Mapping file for Revision 2 r-in32m3_samplesoft/Device/Renesas/RIN32M3/Source/Templates/IAR/rev2 r-in32m3_samplesoft/Device/Renesas/RIN32M3/Source/Templates/GCC/rev2 r-in32m3_samplesoft/Device/Renesas/RIN32M3/Source/Templates/ARM/rev2 *notice Please refer below documentation http://documentation.renesas.com/doc/products/mpumcu/tu/tnrina001be.pdf
V1.2.4 (2015/8/31)	[Changed] /CCLinkIE/GX_Works2/BIDIR_LED.gxw - Change Node number(17->1) /CCLinkIE/root/Japanese/sample/src/R_IN32M3_sample.c - MAC address is set the fix value defined in Software. MAC address "0xF0, 0x2E, 0x15, 0x6C, 0x77, 0x9B" /CCLinkIE/GCC/scat_boot_iram.ld - Remove unnecessary definition of linker file.
V1.2.3 (2015/5/19)	[Changed] /CCLinkIE/ARM/ /CCLinkIE/GCC/ /CCLinkIE/IAR/ - Update EWARM project file and makefiles.
V1.2.2 (2015/2/4)	[Changed] /CCLinkIE/main.c - Add port setting for rotary switches(SW18, SW19). /CCLinkIE/root/Japanese/sample/src/R_IN32M3_sample.c - MAC address is set the value of S-Flash(Address 0x007FF000) In case of 0x007FF000 : 0x00,0x00,0x00,0x00,0x00,0x00, MAC address is set the fix value defined in Software - Network Number/Node Number is set by the state of the rotary switch(SW18,19) Network Number = rotary switch(SW18) Node Number = rotary switch(SW19)
V1.2.1 (2014/3/7)	[New] /CCLinkIE/GX_Works2/BIDIR_LED.gxw - Add "BIDIR_LED" for PLC. [Delete] /CCLinkIE/GX_Works2/20131220_BIDIR_LED.gxw - Delete "20131220_BIDIR_LED" for PLC.
V1.2.0 (2014/1/29)	[New] /CCLinkIE/GX_Works2/20131220_BIDIR_LED.gxw - Add "20131220_BIDIR_LED" for PLC. [Changed] /CCLinkIE/main.c - Add port setting for rotary switches(SW17, SW20) and LED(D48-D55). /CCLinkIE/root/Japanese/sample/src/R_IN32M3_sample.c - Add bi-direction transmission processing for mitsubishi PLC.
V1.1.0 (2013/12/26)	[Changed] - Update EWARM project file and makefiles.
V1.0.0 (2013/7/26)	First release

General Precautions in the Handling of Microprocessing Unit and Microcontroller Unit Products

The following usage notes are applicable to all Microprocessing unit and Microcontroller unit products from Renesas. For detailed usage notes on the products covered by this document, refer to the relevant sections of the document as well as any technical updates that have been issued for the products.

1. Handling of Unused Pins

   Handle unused pins in accordance with the directions given under Handling of Unused Pins in the manual.

   — The input pins of CMOS products are generally in the high-impedance state. In operation with an unused pin in the open-circuit state, extra electromagnetic noise is induced in the vicinity of LSI, an associated shoot-through current flows internally, and malfunctions occur due to the false recognition of the pin state as an input signal become possible. Unused pins should be handled as described under Handling of Unused Pins in the manual.

2. Processing at Power-on

   The state of the product is undefined at the moment when power is supplied.

   — The states of internal circuits in the LSI are indeterminate and the states of register settings and pins are undefined at the moment when power is supplied.
   In a finished product where the reset signal is applied to the external reset pin, the states of pins are not guaranteed from the moment when power is supplied until the reset process is completed.
   In a similar way, the states of pins in a product that is reset by an on-chip power-on reset function are not guaranteed from the moment when power is supplied until the power reaches the level at which resetting has been specified.

3. Prohibition of Access to Reserved Addresses

   Access to reserved addresses is prohibited.

   — The reserved addresses are provided for the possible future expansion of functions. Do not access these addresses; the correct operation of LSI is not guaranteed if they are accessed.

4. Clock Signals

   After applying a reset, only release the reset line after the operating clock signal has become stable. When switching the clock signal during program execution, wait until the target clock signal has stabilized.

   — When the clock signal is generated with an external resonator (or from an external oscillator) during a reset, ensure that the reset line is only released after full stabilization of the clock signal. Moreover, when switching to a clock signal produced with an external resonator (or by an external oscillator) while program execution is in progress, wait until the target clock signal is stable.

5. Differences between Products

   Before changing from one product to another, i.e. to a product with a different part number, confirm that the change will not lead to problems.

   — The characteristics of Microprocessing unit or Microcontroller unit products in the same group but having a different part number may differ in terms of the internal memory capacity, layout pattern, and other factors, which can affect the ranges of electrical characteristics, such as characteristic values, operating margins, immunity to noise, and amount of radiated noise. When changing to a product with a different part number, implement a system-evaluation test for the given product.

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