TOSHIBA

Changing Rated Current Procedure for
GR200 series

Toshiba Transmission & Distribution System (Viet Nam) LTD. - **TTDV**

November, 2021

TTDV-EN-PRC-001B_R2

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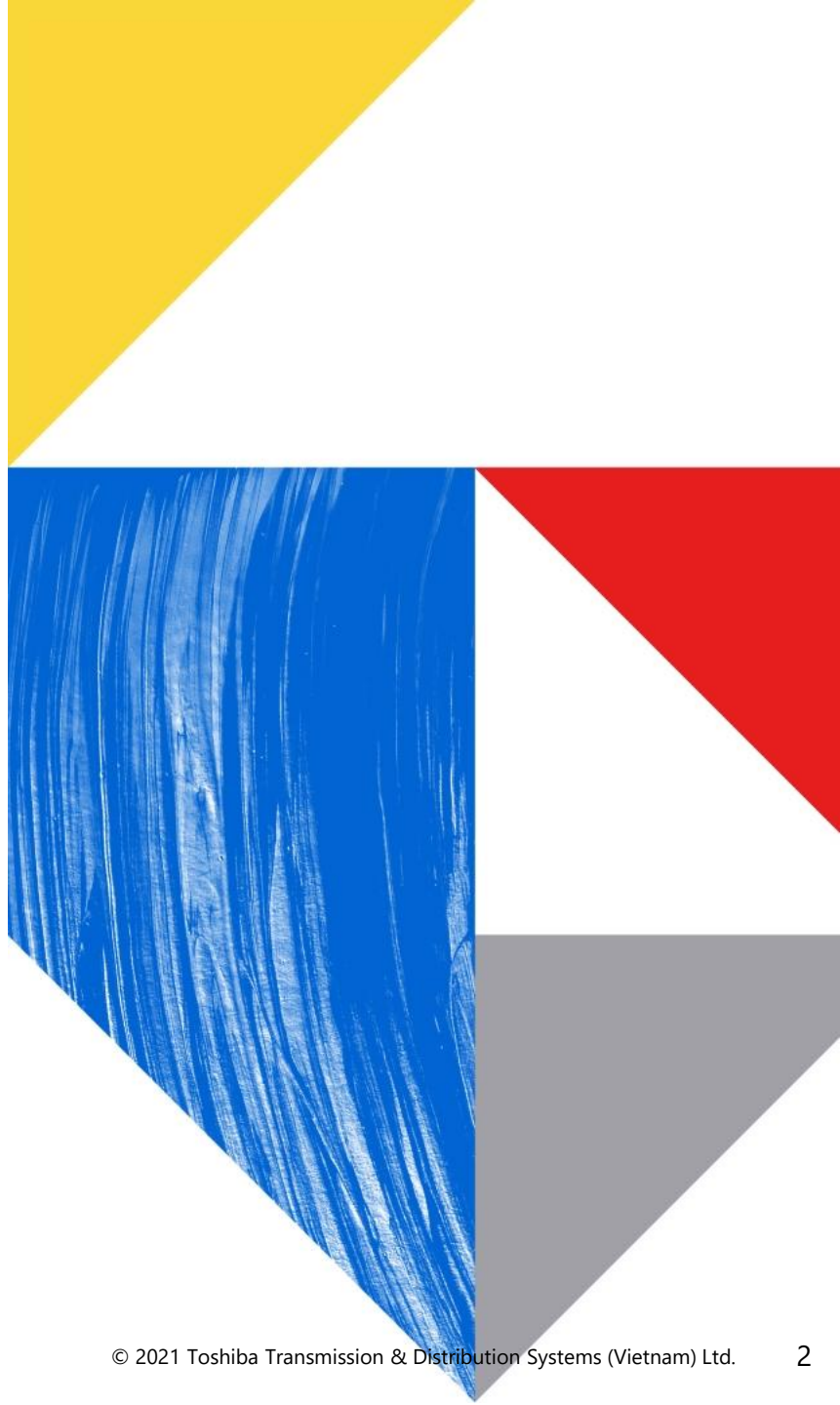
03 Change rated current from 5A to 1A (GRD200/GBU200/GRL200/GRZ200/GRB200-BU)

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01

Check and Preparation



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Check and Preparation

❖ This procedure is applied for Series GR200 IED:

- ✓ **Having software version as following table or manufactured date after October, 2017.**

No	IED Type	Software version (Not Older than)	Manufatured date
1	GBU200	GS2BUIM1-30-**12**_UG-30-00	Oct-2017
2	GRD200	GS2RDIM1-30-**07**_UG-30-01	Oct-2017
3	GRL200, GRZ200	GS2RLIM1-30-**25**_UG-30-00	Oct-2017
4	GRT200, GRB200-BU (Decentralized), GRB200 (Centralized)	Any version	

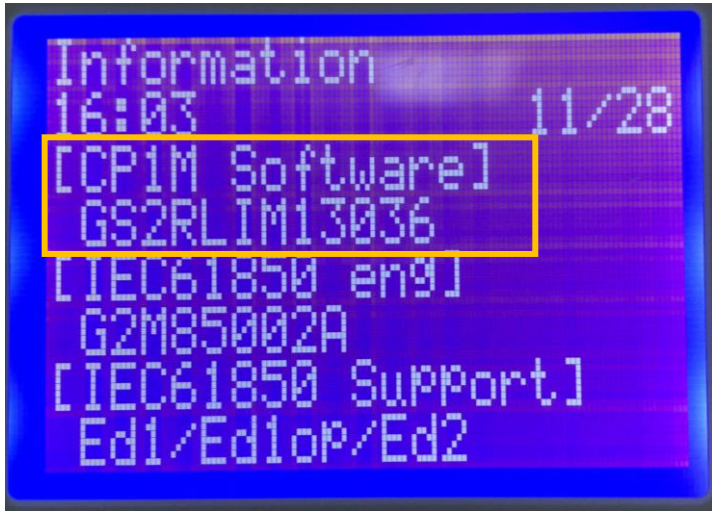
- ✓ **Otherwise, please contact *After-sales Service Group* of TTDV for support (*Email: support@toshiba-ttdv.vn*)**

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Check and Preparation

❖ Software Version:

- Checked from IED's LCD Screen:



IED's screen

↓

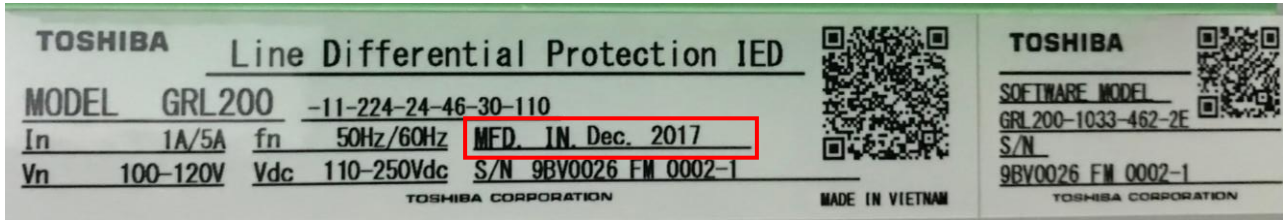
Main Menu

↓

Information

❖ Manufactured Date:

- Check on rear side of IED:



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Check and Preparation

❖ **Required items:**

(1) Jumpers (contact TTDV if not have)

(2) PC with ETH (RJ45) port and USB port

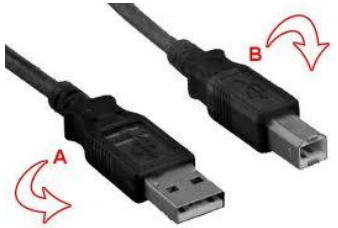
(3) USB(A-B) Cable

(4) LAN Cable(RJ45)

(5) GR-TIEMS Software



Jumpers



USB (A-B) Cable



LAN (RJ45) Cable

Note:

If IED has optical port only, optical cables and a media converter is required

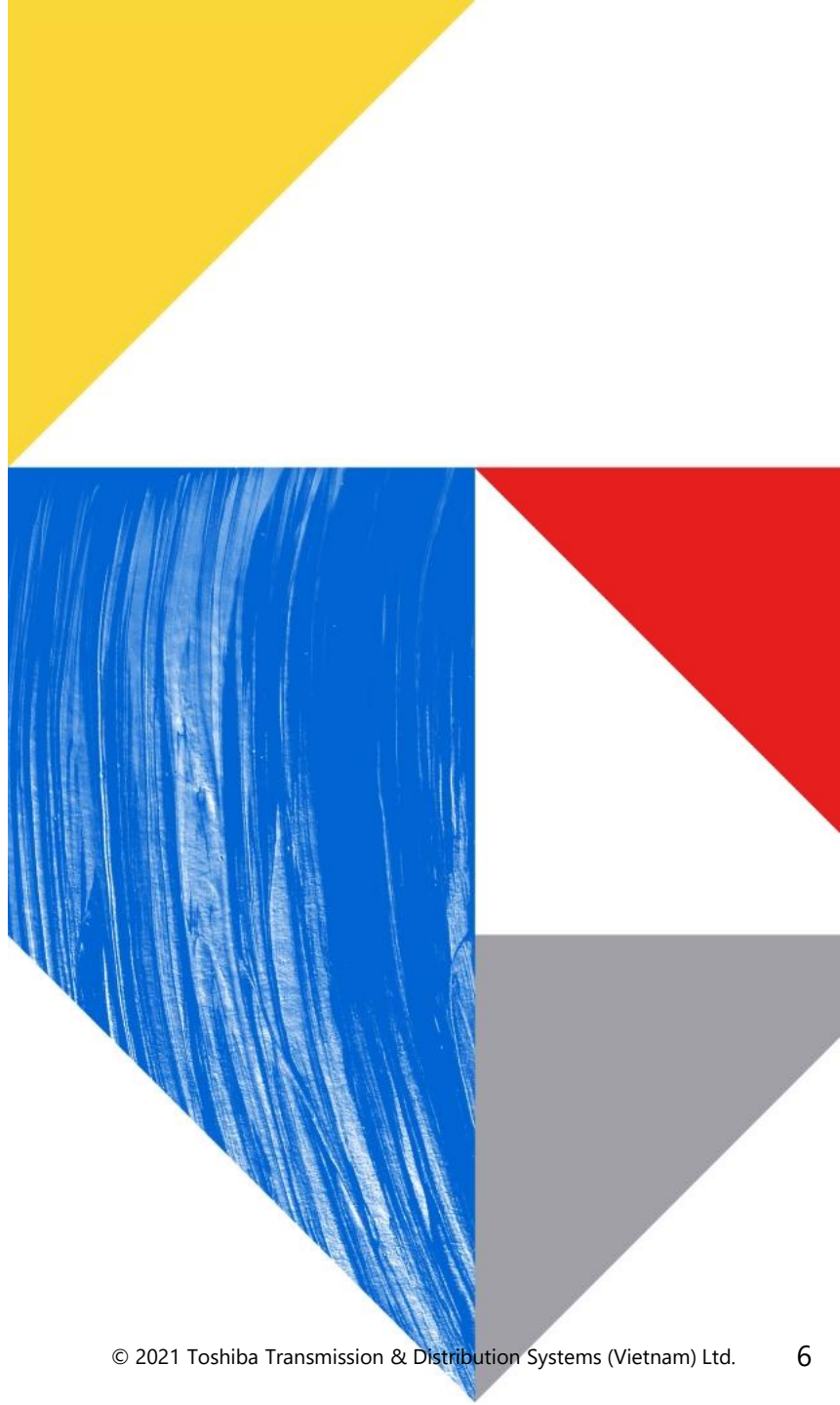


Optic Cable and Media converter

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02

Change rated current from 1A to 5A (GRD200/GBU200/GRL200/GRZ200/ GRB200-BU)

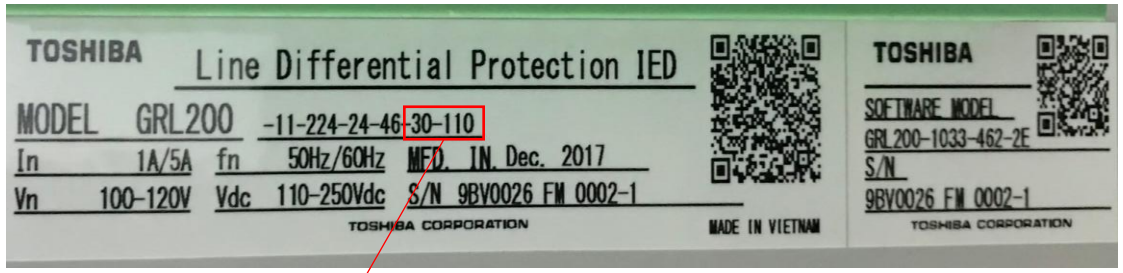


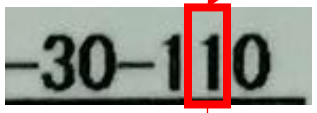
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Change rated current from 1A to 5A

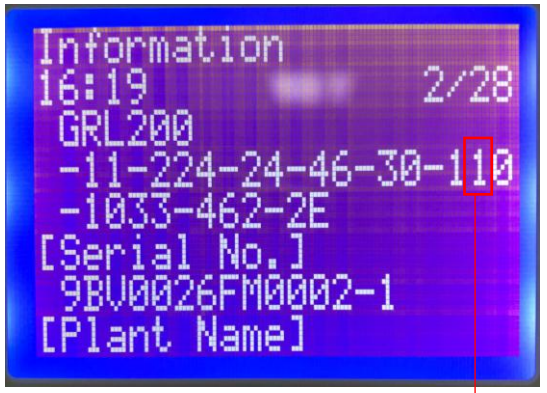
❖ Step 1: Confirming IED information

- Rated current 1A is determined from IED Ordering code (rear panel stamps or Information on LCD Screen).





Code at posision	Rated Current
1	1A
2	5A



IED Screen
↓
Main Menu
↓
Information

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Change rated current from 1A to 5A

- **Step 2: Turn off IED**
- **Step 3: Open IED's front panel**





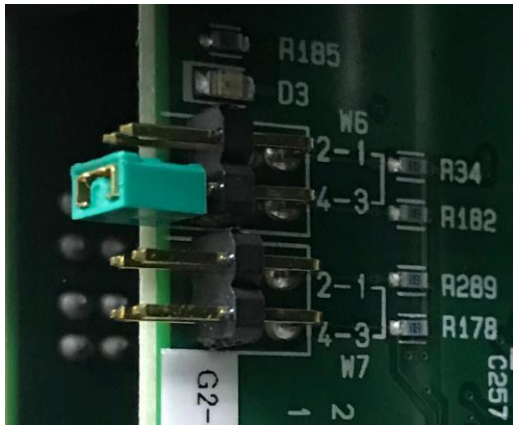
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Change rated current from 1A to 5A

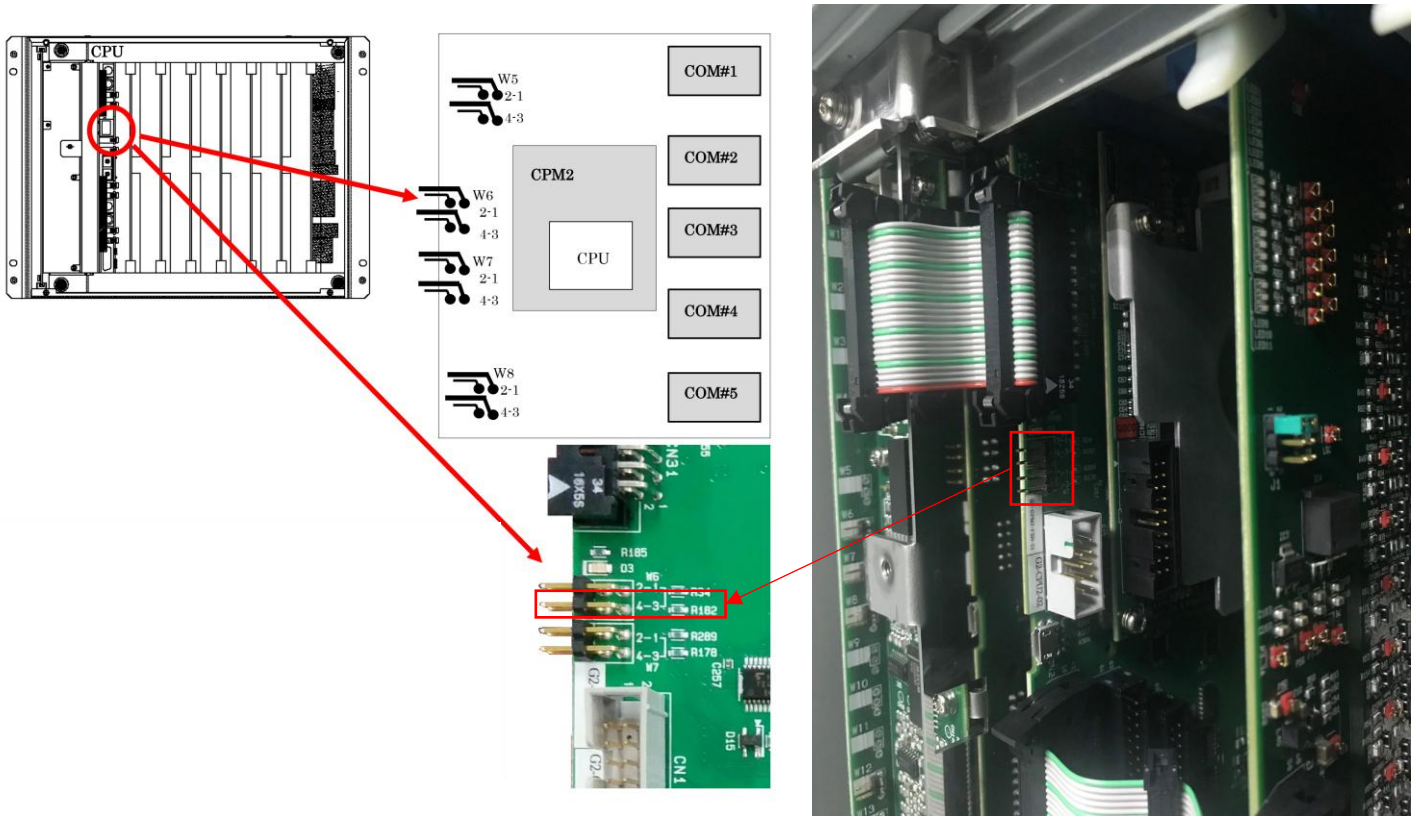
❖ Step 4: Insert jumpers for CPU module, switching CPU to “Constrained” mode (allowing changing rated current)

- CPU Module has W6 for changing mode

➡ Insert jumper at Pin 3-4 of W6



Inserted jumper at Pin 3-4 of W6



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Change rated current from 1A to 5A

❖ Step 5: Insert jumpers for VCT Module (Current Input)

- ❑ In order to **shift rated current to 5A**, **Inserting jumpers** in appropriate position for VCT Module.
- ❑ Identifying VCT Type and jumpers position by **digit No.7** of IED's ordering code and refer to below table:

GRD200's VCT Type

Code at Position 7	Structure	Jumper Inserted Position	Quantity of Jumpers
1	Transformer Module (VCT32B)	VC1: W5,6,7,8 and W13	6 (VCT+CPU)
2	Not applicable	Not applicable	Not applicable
4	Transformer Module (VCT31B)	VC1: W9,10,11,12 and W13	6 (VCT+CPU)
5	Transformer Module (VCT36B)	VC1: W6,7,8, 13 and W14	6 (VCT+CPU)
6	Transformer Module (VCT31B)	VC1: W9,10 and W11	4(VCT+CPU)

GRL200's and GRZ200's VCT Type

Code at Position 7	Structure	Jumper Inserted Position	Quantity of Jumpers
1	Transformer Module (VCT12B)	VC1: W6,7,8,12 and W13	6 (VCT+CPU)
2	Transformer Module (VCT11B)	VC1: W6 to W14	10 (VCT+CPU)

GBU200's VCT Type

Code at Position 7	Structure	Jumper Inserted Position	Quantity of Jumpers
0	Not applicable	Not applicable	Not applicable
1	Transformer Module (VCT51B)	VC1: W10,11,12 and W13	5 (VCT+CPU)
2	Transformer Module (VCT52B)	VC1: W6,7,8 and W9	5 (VCT+CPU)
3	Transformer Module (VCT53B)	VC1: W9,10,11 and 12	5 (VCT+CPU)
4	Transformer Module (VCT51B and VCT54B)	VC1: W10,11,12 and W13 VC2: W10,11,12	8 (VCT+CPU)
5	Transformer Module (VCT52B and VCT55B)	VC1: W6,7,8 and W9 VC2: W6,7,8	8 (VCT+CPU)
6	Transformer Module (VCT53B and VCT56B)	VC1: W9,10,11 and 12 VC2: W9,10,11	8 (VCT+CPU)

Examples: GRD200-**4**1-23D-00-46-30-110 → VCT Type VCT31B
GRL200-**1**1-224-24-4L-30-110 → VCT Type VCT12B
GRZ200-**1**1-221-00-46-30-110 → VCT Type VCT12B
GBU200-**2**1-75B-00-46-30-110 → VCT Type VCT52B

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Change rated current from 1A to 5A

❖ Step 5: Insert jumpers for VCT Module (Current Input) - Continue

- ❑ In order to **shift rated current to 5A**, **Inserting jumpers** in appropriate position for VCT Module.
- ❑ Identifying VCT Type and jumpers position by **digit No.7** of IED's ordering code and refer to below table:

GRB200-BU's VCT Type (Decentralized)

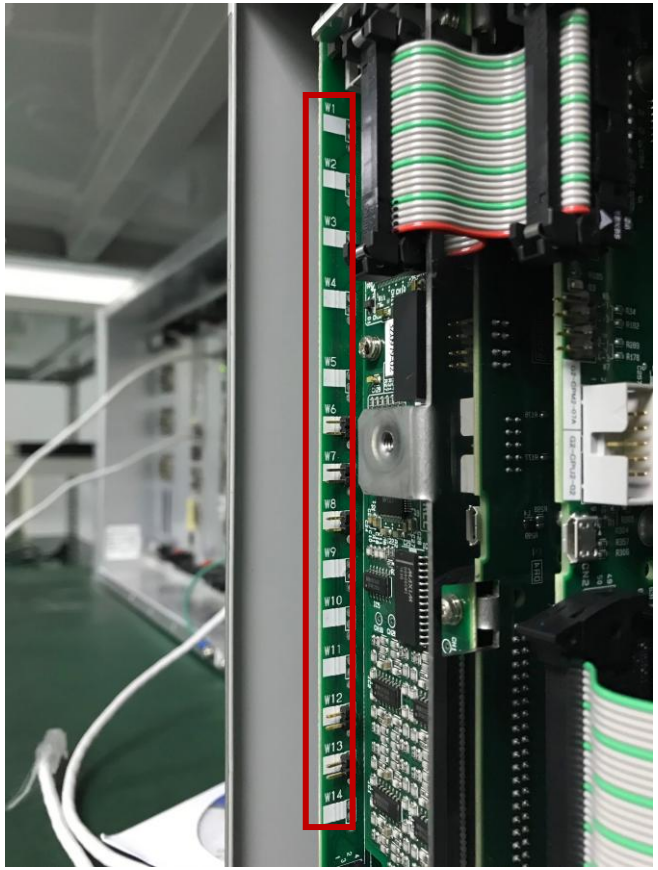
Code at Position 7	Structure	Jumper Inserted Position	Quantity of Jumpers
1	Transformer Module (VCT32B)	VC1: W4,5,6 and W8	5 (VCT+CPU)
2	Transformer Module (VCT22B)	VC1: W10,11,12 and W13	5 (VCT+CPU)

Examples: GRB200-**1**1-111-B0-14-30-110 → VCT Type VCT32B

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Change rated current from 1A to 5A

➢ Examples of inserting jumpers:



Before inserting jumpers



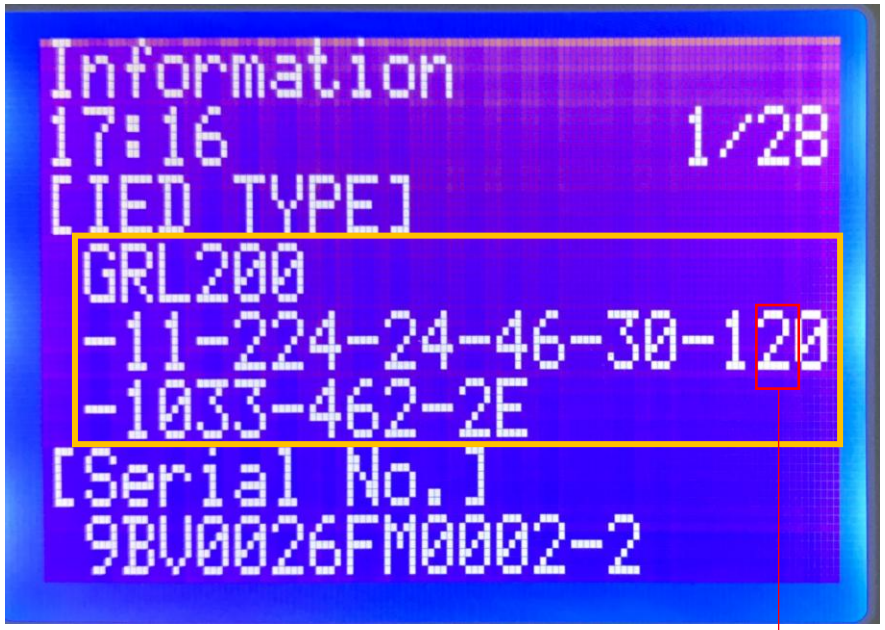
After inserting jumpers

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Change rated current from 1A to 5A

- **Step 6: After inserting jumpers as above instruction, IED will change rated current to 5A. IED ordering code will be changed respectively.**

- **Step 7: Close IED's front panel, turn on the relay and confirm IED's ordering code has been updated:**



Code at position	Rated Current
1	1A
2	5A

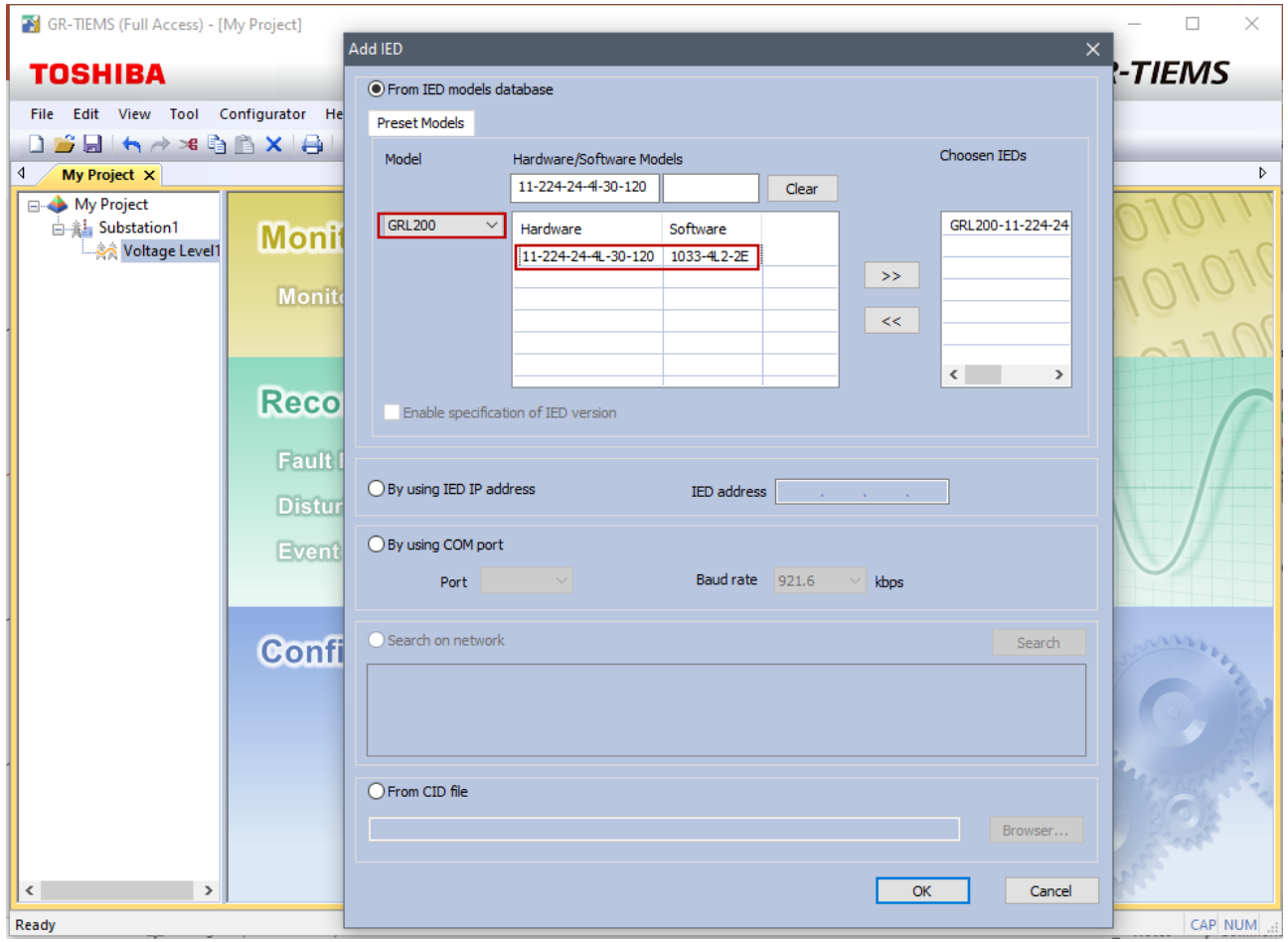
IED's Screen → Main Menu → Information

Rated current is changed from 1A to 5A

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Change rated current from 1A to 5A

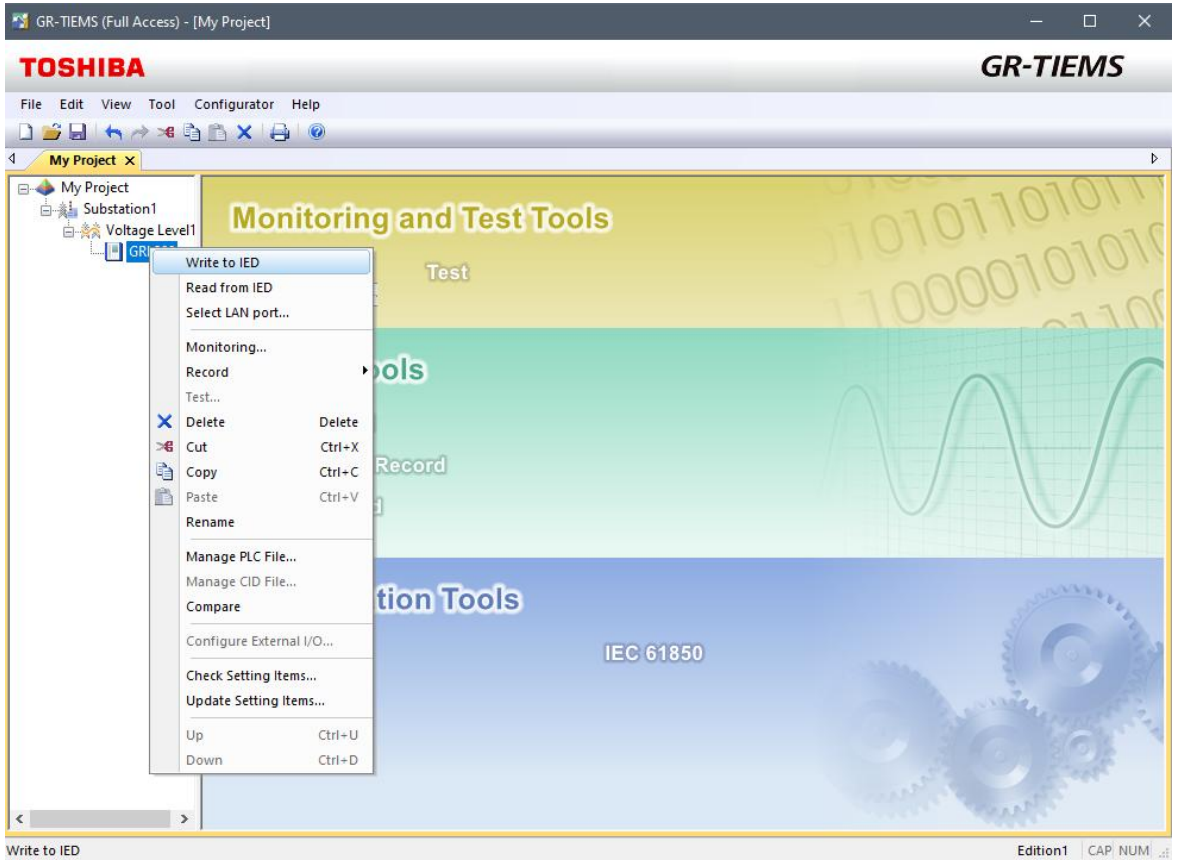
❖ **Step 8: Create new IED in GR-TIEMS with updated ordering code as step 7**



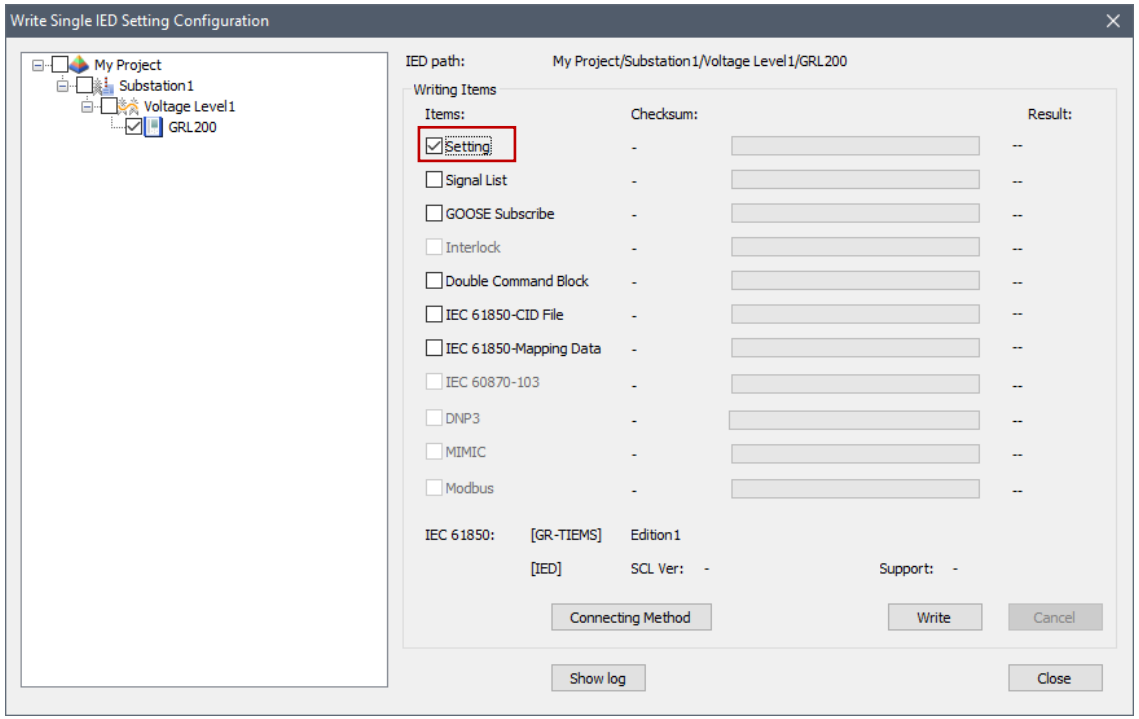
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Change rated current from 1A to 5A

❖ Step 9: Write default setting from GR-TIEMS to IED for updating new setting range



Select **Setting** of **Write Items**

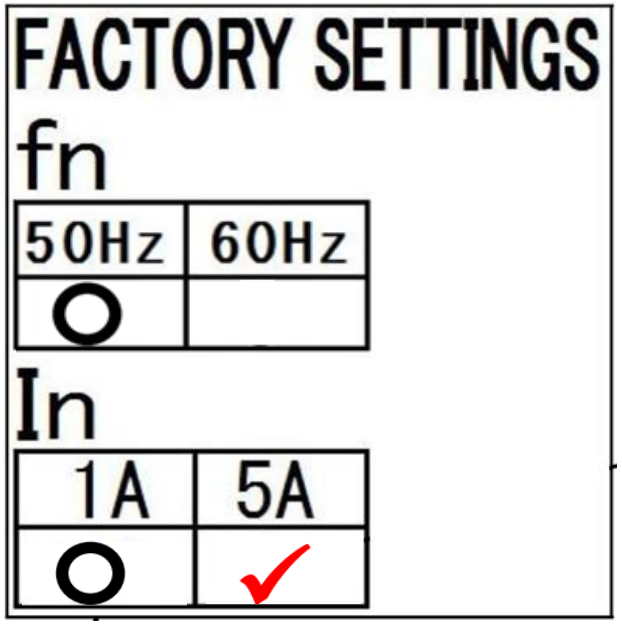


"Connection Method" must be confirm before writing

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Change rated current from 1A to 5A

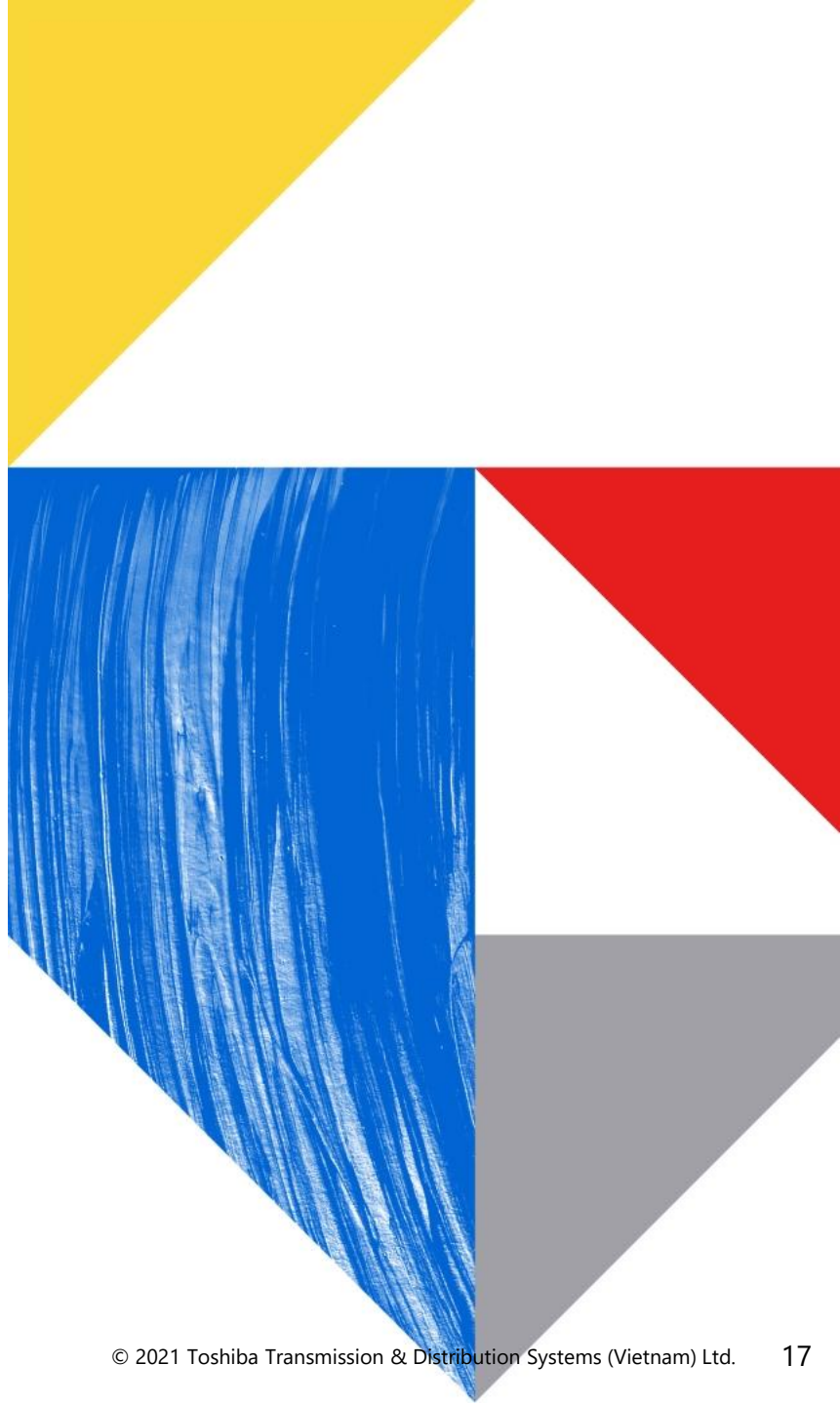
❖ **Step 10: Remark and store the information of changing rated current.**



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03

Change rated current from 5A to 1A (GRD200/GBU200/GRL200/GRZ200/ GRB200-BU)

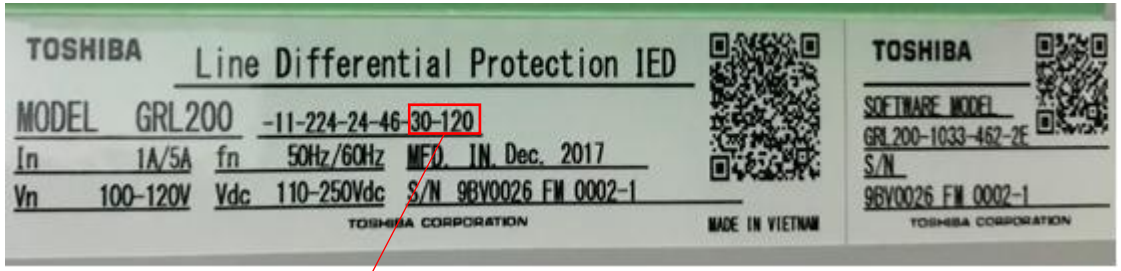


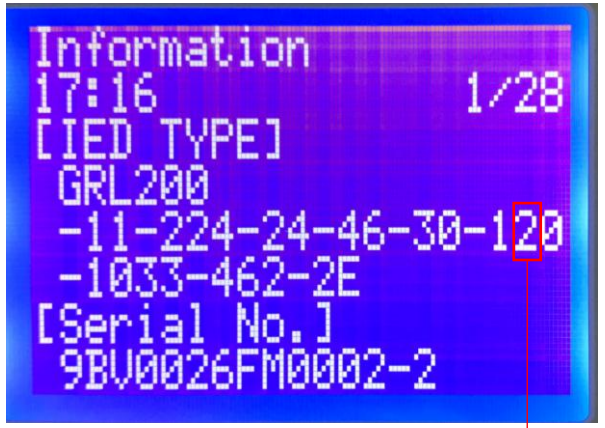
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Change rated current from 5A to 1A

❖ Step 1: Confirming IED information

- Rated current 5A is determined from IED Ordering code (rear panel stamps or Information on LCD Screen).





IED's Screen → Main Menu → Information

30-120

Code at position	Rated Current
1	1A
2	5A

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Change rated current from 5A to 1A

- **Step 2: Turn off IED**
- **Step 3: Open IED's front panel**





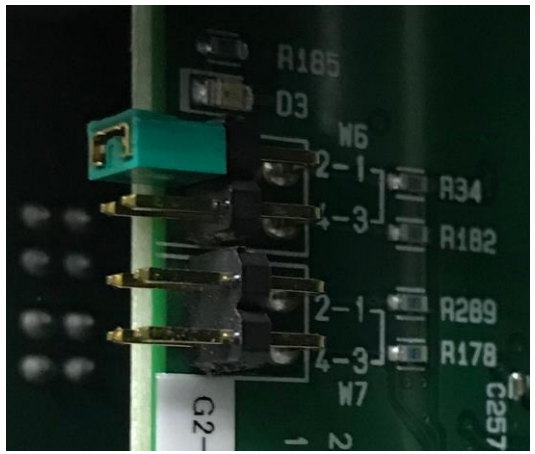
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Change rated current from 5A to 1A

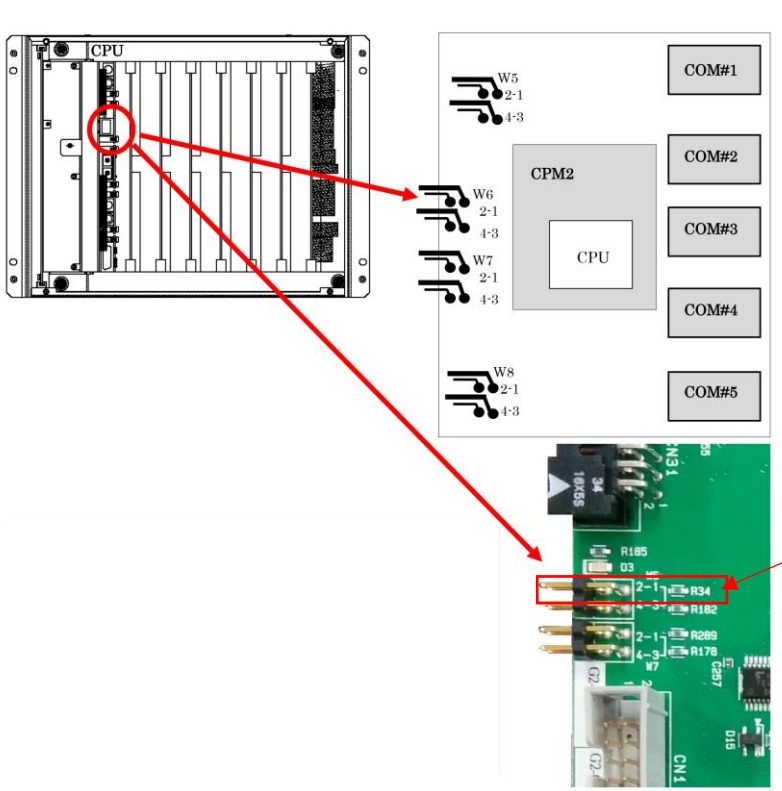
❖ Step 4: Insert jumpers for CPU module, switching CPU to “Constrained” mode (allowing changing rated current)

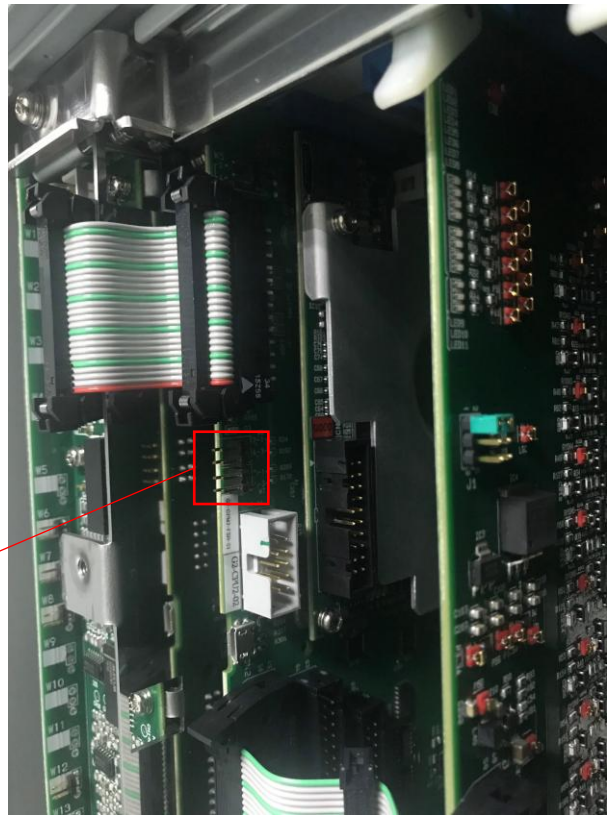
- CPU Module has W6 for changing mode

➡ Insert jumper at Pin 1-2 of W6



Inserted jumper at Pin 1-2 of W6





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Change rated current from 5A to 1A

❖ Step 5: Remove jumpers for VCT Module (Current Input)

- ❑ In order to **shift rated current to 1A**, **removing jumpers** in appropriate position for VCT Module.
- ❑ Identifying VCT Type and jumpers position by **digit No.7** of IED's ordering code and refer to below table:

GRD200's VCT Type

Code at Position 7	Structure	Jumper removed Position	Jumper Inserted Position
1	Transformer Module (VCT32B)	VC1: W5,6,7,8 and W13	CPU: W6(1-2)
2	Not applicable	Not applicable	Not applicable
4	Transformer Module (VCT31B)	VC1: W9,10,11,12 and W13	CPU: W6(1-2)
5	Transformer Module (VCT36B)	VC1: W5,6,7,8 and W14	CPU: W6(1-2)
6	Transformer Module (VCT31B)	VC1: W9,10 and W11	CPU: W6(1-2)

GRL200's and GRZ200's VCT Type

Code at Position 7	Structure	Jumper removed Position	Jumper Inserted Position
1	Transformer Module (VCT12B)	VC1: W6,7,8,12 and W13	CPU: W6(1-2)
2	Transformer Module (VCT11B)	VC1: W6 to W14	CPU: W6(1-2)

GBU200's VCT Type

Code at Position 7	Structure	Jumper removed Position	Jumper Inserted Position
0	Not applicable	Not applicable	Not applicable
1	Transformer Module (VCT51B)	VC1: W10,11,12 and W13	CPU: W6(1-2)
2	Transformer Module (VCT52B)	VC1: W6,7,8 and W9	CPU: W6(1-2)
3	Transformer Module (VCT53B)	VC1: W9,10,11 and 12	CPU: W6(1-2)
4	Transformer Module (VCT51B and VCT54B)	VC1: W10,11,12 and W13 VC2: W10,11,12	CPU: W6(1-2)
5	Transformer Module (VCT52B and VCT55B)	VC1: W6,7,8 and W9 VC2: W6,7,8	CPU: W6(1-2)
6	Transformer Module (VCT53B and VCT56B)	VC1: W9,10,11 and 12 VC2: W9,10,11	CPU: W6(1-2)

Examples: GRD200-**4**1-23D-00-46-30-120 → VCT Type VCT31B
GRL200-**1**1-224-24-4L-30-120 → VCT Type VCT12B
GRZ200-**1**1-221-00-46-30-120 → VCT Type VCT12B
GBU200-**2**1-75B-00-46-30-120 → VCT Type VCT52B

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Change rated current from 5A to 1A

❖ Step 5: Remove jumpers for VCT Module (Current Input) - Continue

- ❑ In order to **shift rated current to 1A**, **removing jumpers** in appropriate position for VCT Module.
- ❑ Identifying VCT Type and jumpers position by **digit No.7** of IED's ordering code and refer to below table:

GRB200-BU's VCT Type (Decentralized)

Code at Position 7	Structure	Jumper removed Position	Jumper Inserted Position
1	Transformer Module (VCT32B)	VC1: W4,5,6 and W8	CPU: W6(1-2)
2	Transformer Module (VCT22B)	VC1: W10,11,12 and W13	CPU: W6(1-2)

Examples: GRB200-**1**1-111-B0-14-30-120 → VCT Type VCT32B

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Change rated current from 5A to 1A

➢ Examples of removing jumpers:



Before removing jumpers



After removing jumpers

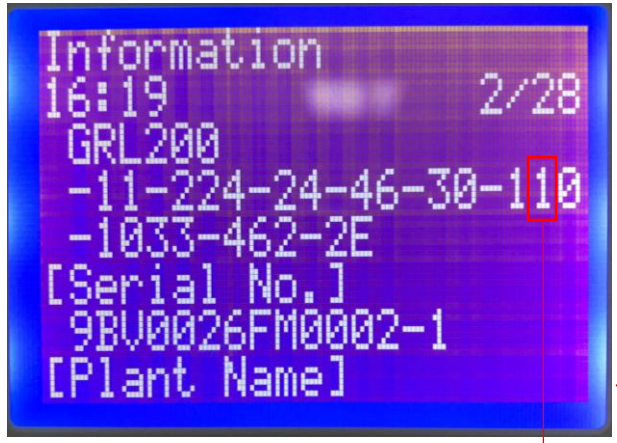
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Change rated current from 5A to 1A

- **Step 6: After inserting jumpers as above instruction, IED will change rated current to 1A. IED ordering code will be changed respectively.**

- **Step 7: Close IED's front panel, Turn on the relay and confirm IED's ordering code has been updated:**

Code at position	Rated Current
1	1A
2	5A



IED's Screen

Main Menu

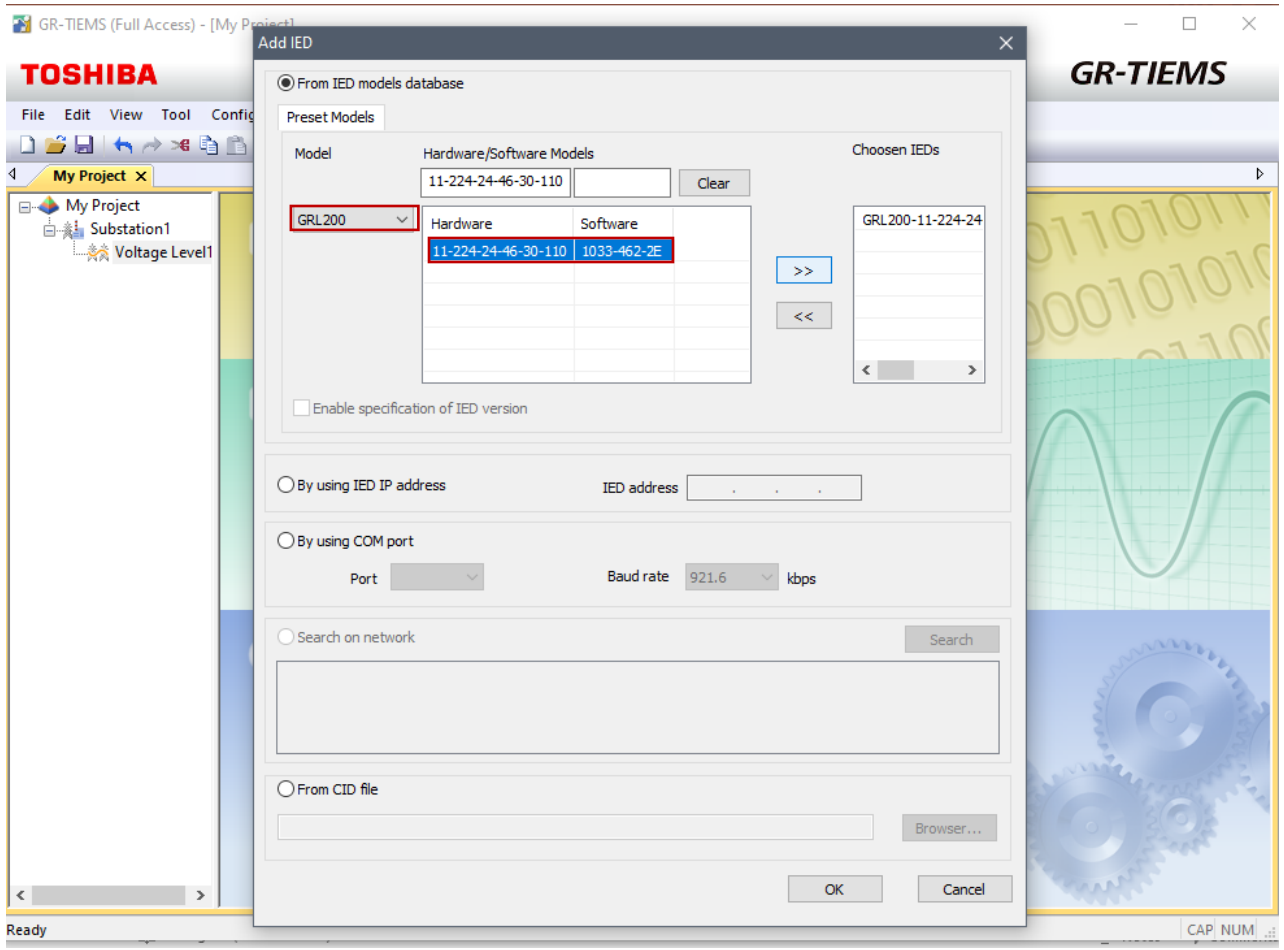
Information

Rated current is changed from 5A to 1A

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Change rated current from 5A to 1A

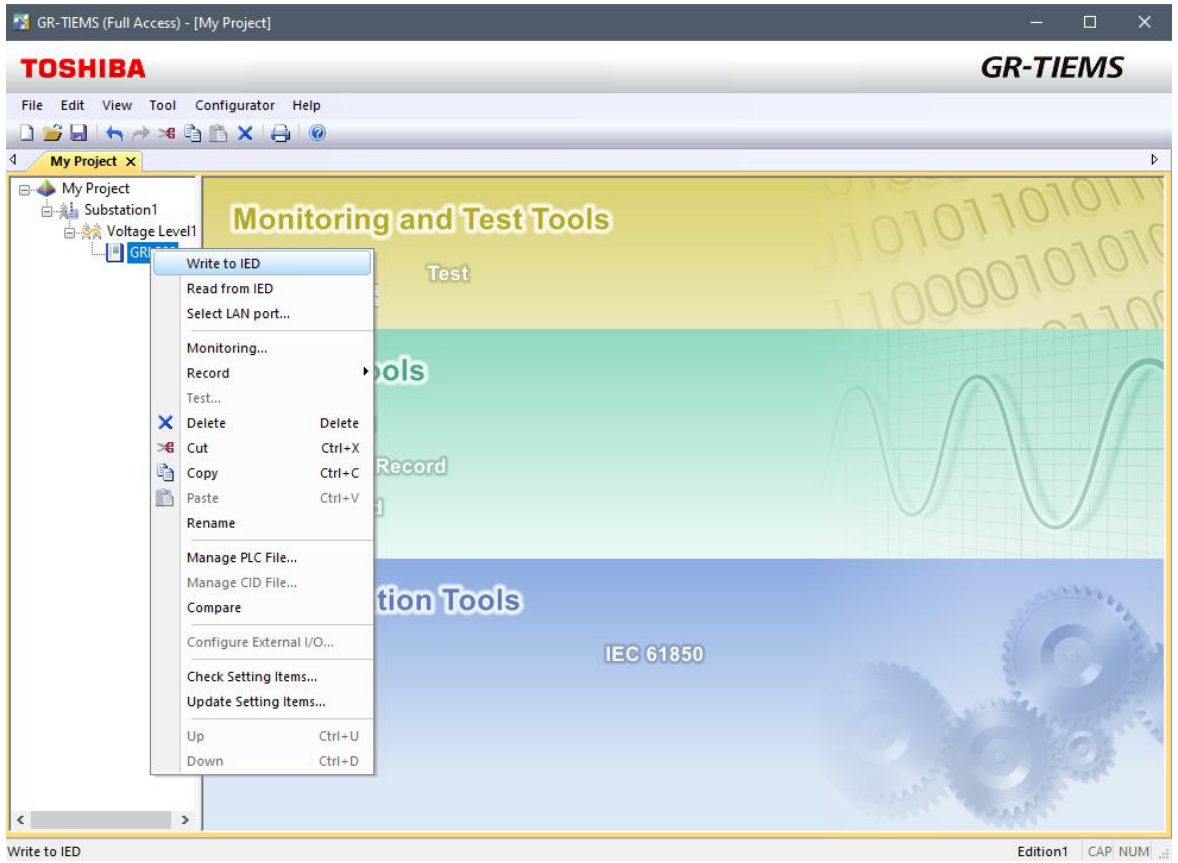
❖ **Step 8: Create new IED in GR-TIEMS with updated ordering code as step 7**



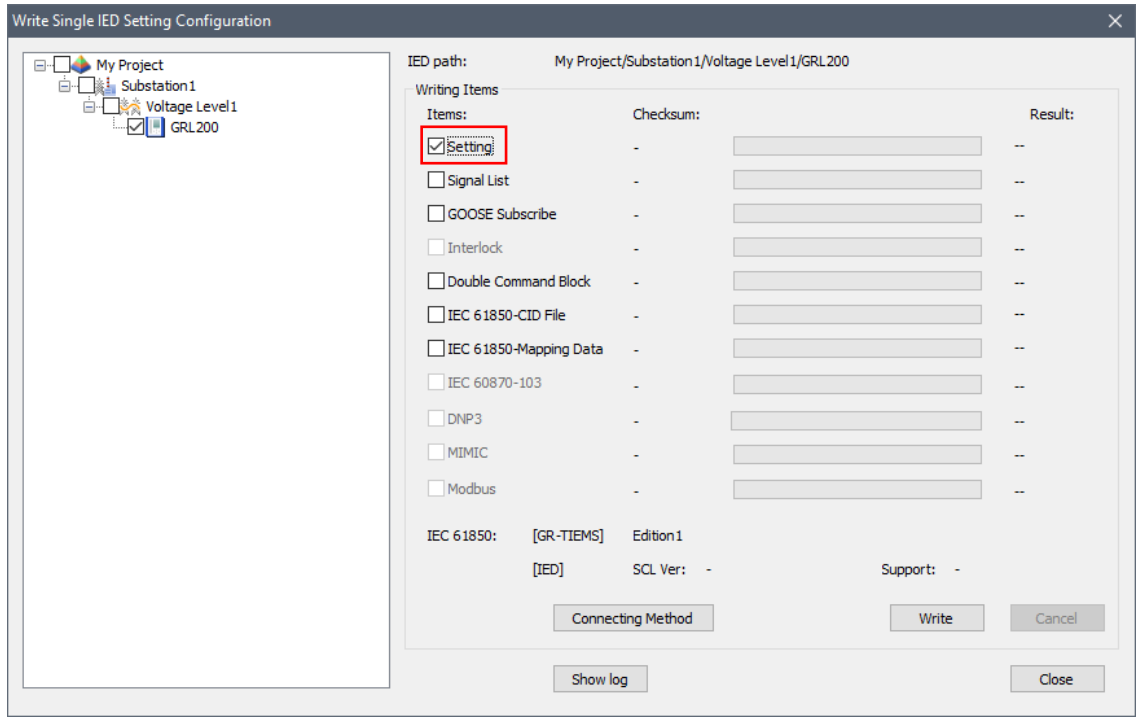
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Change rated current from 5A to 1A

❖ Step 9: Write default setting from GR-TIEMS to IED for updating new setting range



Chọn **Setting** trên **Write Items**

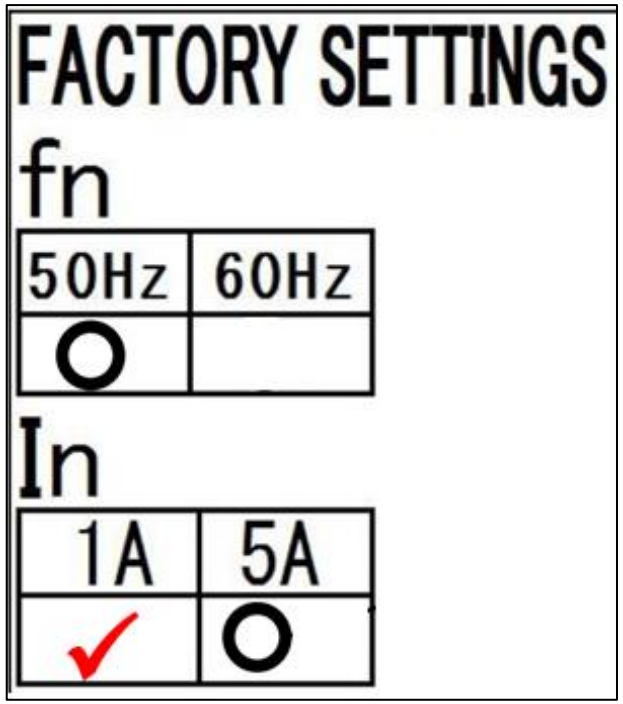


"Connection Method" must be confirm before writing

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Change rated current from 5A to 1A

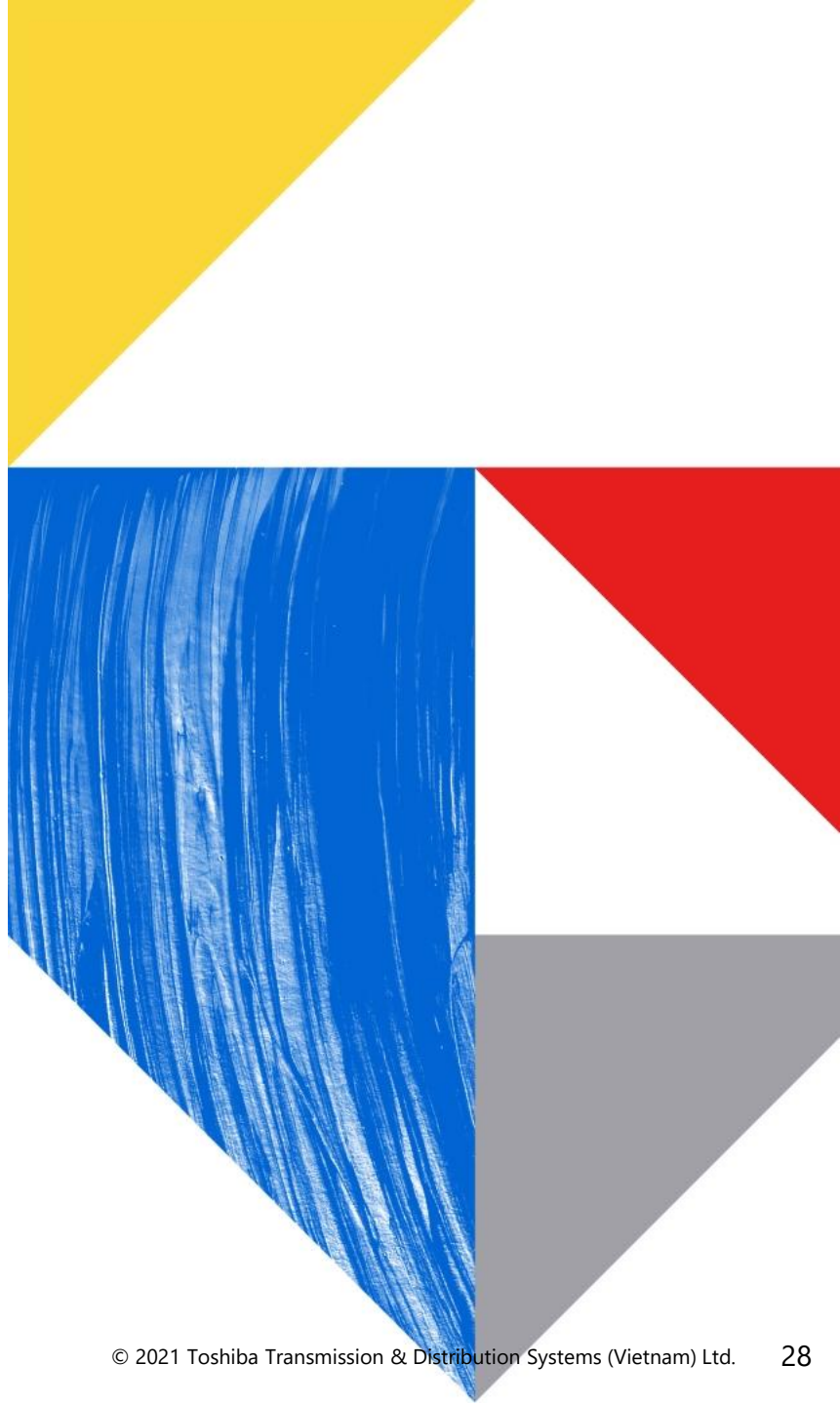
❖ **Step 10: Remark and store the information of changing rated current.**



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04

Change rated current for GRT200/GRB200-Centralized



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Change rated current for GRT200/GRB200-Centralized

- **Step 1: Turn off IED**
- **Step 2: Open IED's front panel**





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Change rated current for GRT200/GRB200-Centralized

❖ Step 3: Inserting/Removing for Current Input

- ❑ To shift rated current to 5A: **inserting jumpers** at appropriate position for VCT Module
- ❑ To shift rated current to 1A: **removing jumpers** at appropriate position for VCT Module
- ❑ Identifying VCT Type and jumpers position by **digit No.7** of IED's ordering code and refer to below table:

GRT200's VCT Type

Code at Position 7	Structure	Jumper position												Quantity of Jumpers
3	VCT49B	1CT			2CT			3CT			1NCT	2NCT		11
		W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14		
4	VCT44B	1CT			2CT			3CT			4CT			12
		W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	
5	VCT44B	1CT			2CT			3CT			1NCT	2NCT	3NCT	18
		W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	W14	
	VCT49B	4CT			5CT									
		W9	W10	W11	W12	W13	W14							

Examples: GRT200-**3**1-237-00-4L-30-111 → VCT Type VCT49B

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Change rated current for GRT200/GRB200-Centralized

GRB200's VCT Type - Main Unit (Centralized)

Code at Position 7	Structure	Jumper position												Quantity of Jumper
0	VCT23B	CH1			CH2			CH3			CH4			12
		W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	
1	VCT23B	CH1/CH5			CH2/CH6			CH3/CH7			CH4/CH8			24
		W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	
2	VCT48B	CH1			CH2									6
		W9	W10	W11	W12	W13	W14							
	VCT23B	CH1			CH2			CH3			CH4			12
		W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	
3	VCT23B	CH1			CH2			CH3			CH4			12
		W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	
4	VCT48B	CH1			CH2									6
		W9	W10	W11	W12	W13	W14							

Examples: GRB200-**2**1-4T2-M2-46-30-110 → VCT Type VCT48B and VCT23B

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Change rated current for GRT200/GRB200-Centralized

GRB200's VCT Type - Sub Unit (Centralized)

Code at Position 7	Structure	Jumper position												Quantity of Jumper
0	VCT23B	CH1			CH2			CH3			CH4			12
		W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	
1	VCT23B	CH1/CH5			CH2/CH6			CH3/CH7			CH4/CH8			24
		W2	W3	W4	W5	W6	W7	W8	W9	W10	W11	W12	W13	

Ví dụ: GRB200-**1**1-WU8-S0-00-30-110 → 2xVCT type VCT23B

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Change rated current for GRT200/GRB200-Centralized

➢ Examples: Changing rated current from 1A to 5A for 1CT of GRT200



Before inserting jumpers

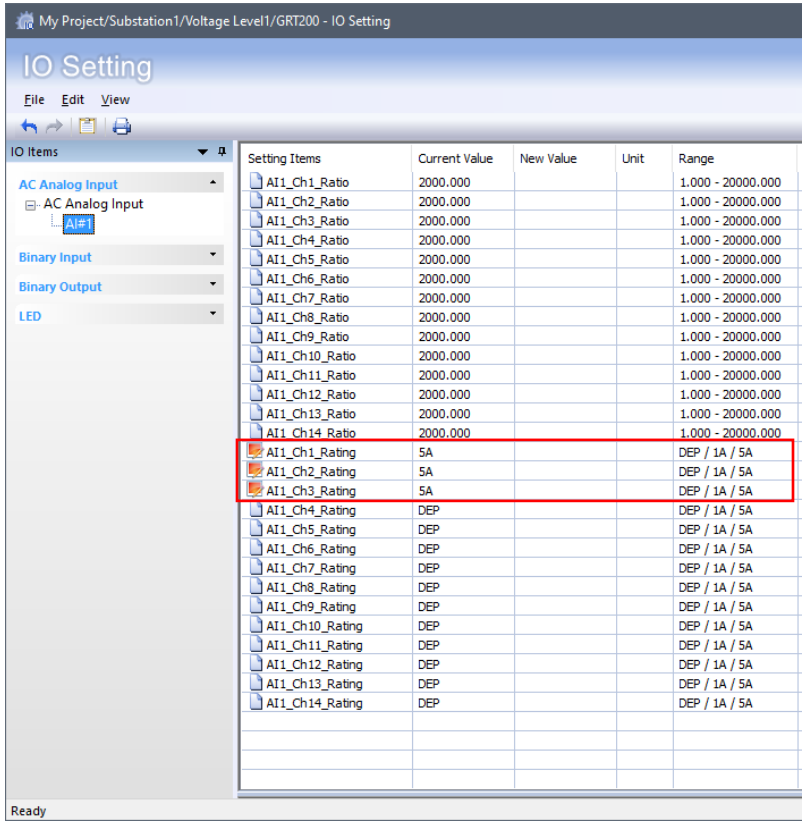


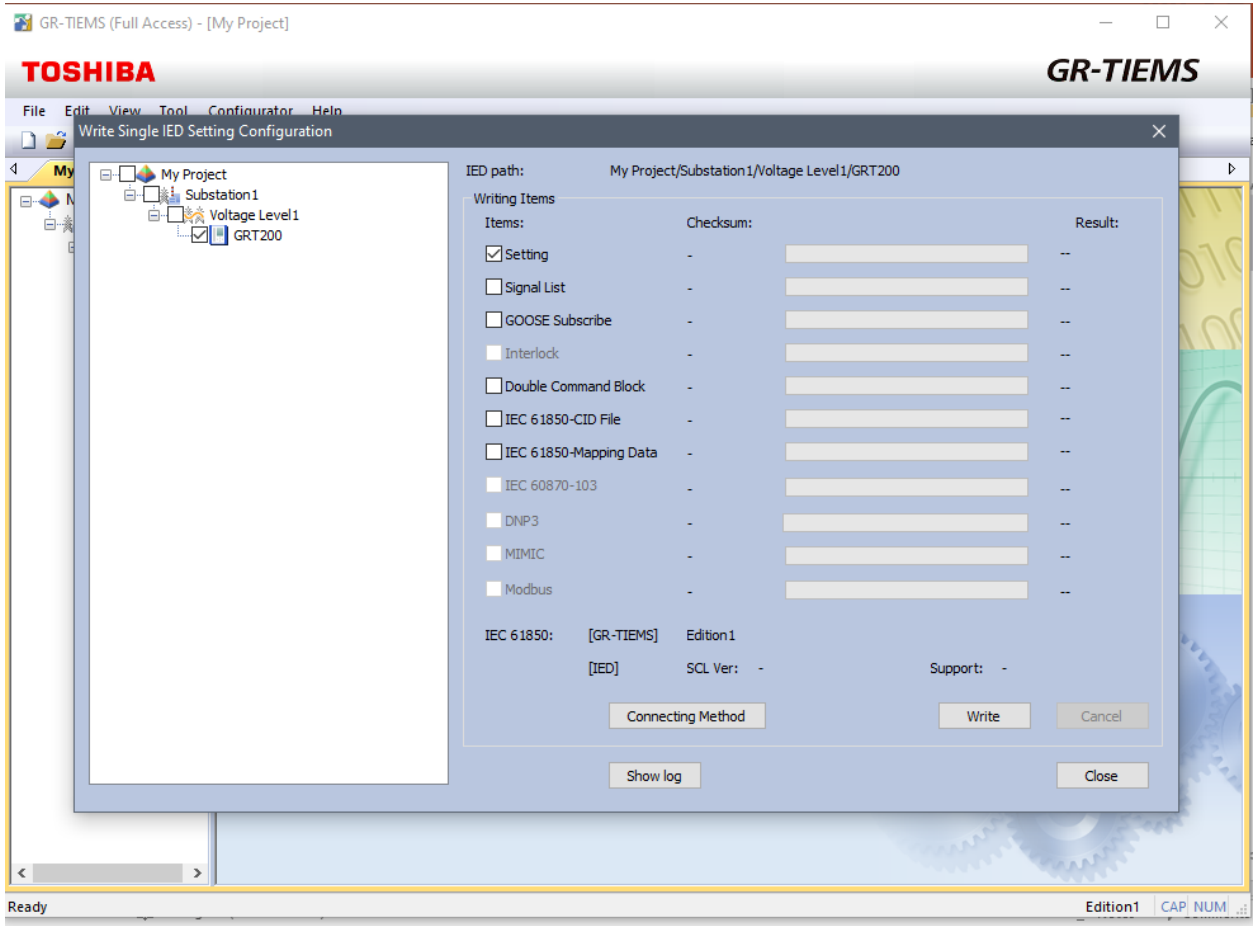
After inserting jumpers

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Change rated current for GRT200/GRB200-Centralized

❖ **Step 4: Changing parameter [AI_CH*_Rating] in IO Setting with corresponding (1A/5A) rated current and write setting to IED**





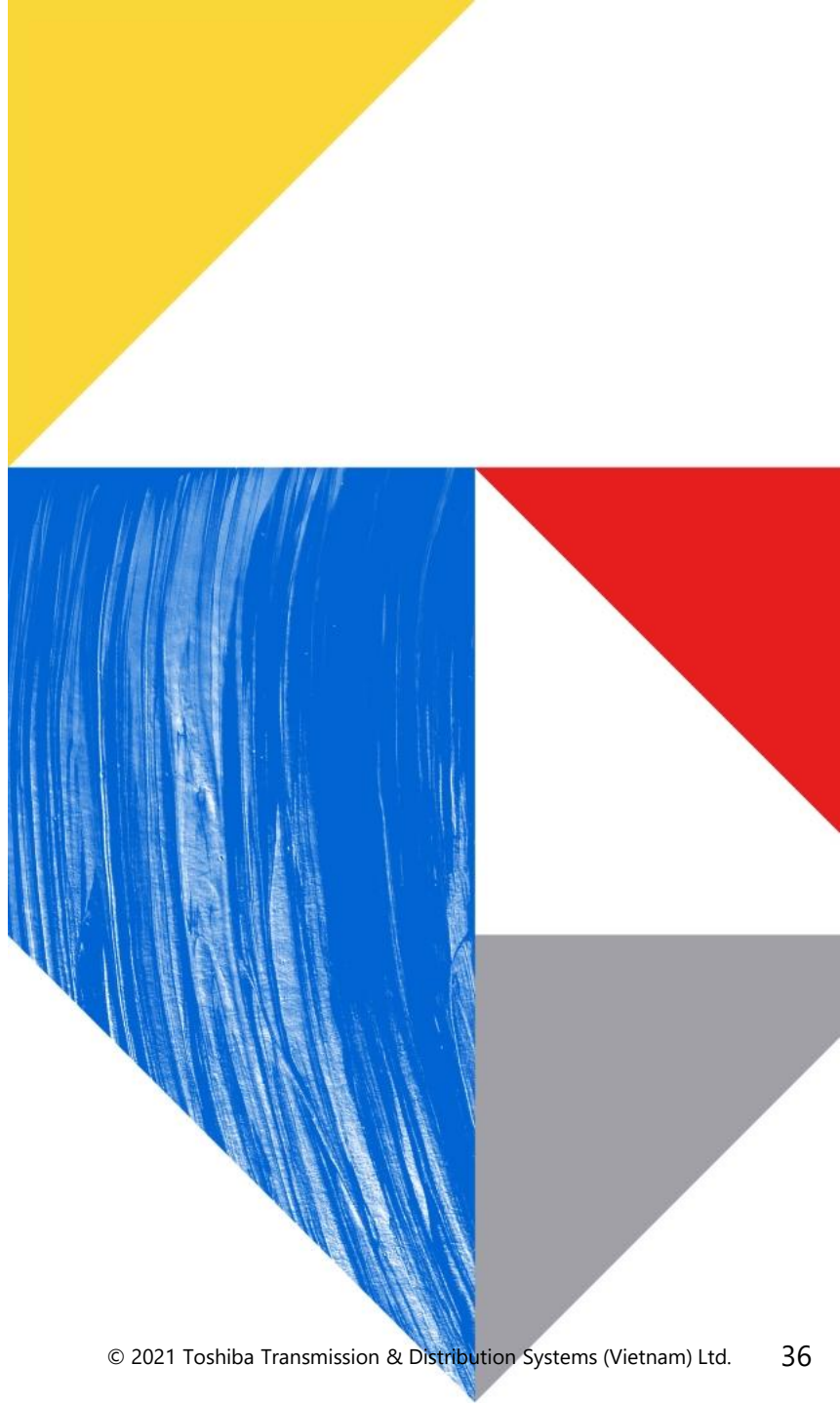
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Revision Up Record

Revision (Rev.)	Date of issuance	Change log	Information	Issued by
0	22/05/2020	All	First issued	P&C Engineering Department
1	16/11/2021	GRD200 VCT Table, Revise All	Added information for VCT31B (GRD200-**6**1-)	P&C Engineering Department
2	13/05/2026	GRD200/GRL200 /GRB200-BU	Modify W* number of GRD200 (VCT36B), GRL200 (VCT11B), GRB200-BU (VCT32B)	P&C Engineering Department

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