Multifunctional HMI

- Standard LCD, or Touch type screen large LCD together with mimic option
- 24 configurable tri-state LEDs selectable red/green/yellow provided at the local human-machine interface
- 7 programmable function keys and direct control buttons for open/close (O/I) and control authority (43R/L)
- Standard local USB port and three signal monitoring terminals for testing purposes
- Multi-language display

Metering and Recording

- Measurement of I and V
- Alarms and events (each with 1,024) can be recorded with 1ms resolution.
- 8 most recent time-tagged fault records including pre-fault and fault values for currents and voltages in text format
- Disturbance records provided using sampled data from all analog inputs and binary signals selected, recorded in COMTRADE format

Extensive Hardware Options and Flexible Adaptation

- Comprehensive range of hardware components
- Main Processing/computing board with enhanced processor
- Wide variety of binary input & output combinations
- Plug-in communication module
- Flexible hardware combinations to meet specific applications

Function-wise Implementation

- Library of function blocks enables wide application for protection, control, measurement and other functions
- Protection elements and schemes
- Metering and recording functions
- Individual function blocks work independently
- Easy IED customisation to add/delete particular function blocks
- Flexible implementation of new functions and modification of specific functions

TOSHIBA

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TOSHIBA Leading Innovation >>>

GR-200 Series **GRB 200 Busbar Protection IED**







GR-200 Series – GRB 200

Busbar **Protection IED**

GRB200 low impedance differential relay for busbar protection is implemented on Toshiba's next generation GR-200 series IED platform and has been designed to provide very reliable, high speed and selective protection for various types of busbar system. This powerful and user-friendly IED will provide you with the flexibility to meet your application and engineering requirements, in addition to offering outstanding performance, high quality and operational peace of mind.





Typical Application

Features

- GRB200 can be applied for various busbar systems.
 - ·Single busbars with/without transfer busbar
 - ·Double busbars with/without transfer busbar
 - ·Ring busbars with/without transfer busbar
 - •One and a half busbars
 - •Four bus-coupler busbars
- GRB200 can detect phase and earth faults on the protected busbar by employing a phase segregated current differential scheme. A maximum of 64 three-phase currents can be input from feeders, sections and bus-couplers, which can correctly distinguish between internal and external faults even in the event of CT saturation.
- Circuit breaker failure protection, end zone protection and blind zone protection are also available.
- Backup overcurrent and earth fault protections are provided as options in each bay. - Communications
- IEC 61850-8-1, Modbus® RTU protocol and IEC 60870-5-103.





unction lock	Protection function		GRB200
DIF	87	Phase-segregated current differential protection	•
	CTF	CT failure detection by Id	
	-	Differential current monitoring	
BF	50BF	Circuit breaker failure protection	•
FP	-	End fault protection	•
OMTP	-	Command trip function	•
0C	50	Non-directional definite time over-current protection	0
	51	Non-directional inverse time over-current protection	
S	FS	Fail-safe function	0

BU (Bay Unit)

•:Standard o:Option