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1 ACTIVATION OF SETTING GROUP

REx 5xx protection, monitoring and control terminals have four built-in independent groups (sets) of setting parameters, which can be activated at any time on five different ways:

- locally by means of built-in man machine interface (MMI)
- locally by means of front connected personal computer
- remotely through the Station Monitoring System (SMS), when option “remote communication” built into the terminal.
- remotely through the station control system, when option “remote communication” built into the terminal.
- locally by means of four programmable binary inputs.

Procedure, necessary for changing of the active setting group by the built-in MMI, is described in item 6 (Man machine interface) of this document. Operating procedures for the PC aided methods of changing the active setting groups are described in the corresponding SMS documents and instructions for the operators within the Substation Control System (SCS). This document deals with the possibility to change the active setting group by means of the control signals connected to the programmable binary inputs of a terminal.

1.1 Application

Different conditions in networks of different voltage levels require high adaptability of the used protection and control schemes, to suit on the best possible way requirements on high dependability, security and selectivity. Especially protection schemes will operate with higher degree of availability, if the setting values of their parameters will all the time be optimised regarding the conditions in power system.

The operational departments can plan different operating conditions for the primary equipment and the protection engineer can prepare for them in advance the necessary optimised and pre-tested settings for different protection functions. Four different sets of setting groups can be stored in REx 5xx terminals and activated automatically through four different programmable binary inputs.

1.2 Configuration and operation

Function has built-in four input signals, as presented on Fig. 1. Each of them is configurable to any of the binary inputs built-in the terminal. Configuration must be performed under the menu:

Configuration
FunctionInputs
ActiveGroup

The number of the signals configured must correspond to the number of the setting groups to be controlled by the external signals (contacts).

It is not necessary that the voltage is present on one binary input permanently. Any pulse, which must be longer than 200 ms will activate the corresponding setting group. The group will remain active until some other command, issued either through one of the binary inputs or by other means (built-in MMI, SMS, SCS), activate another group.

Only one input can be active at the same time. This means that the contact which determines an actual active group must open before the contact that activates a new setting group, closes.

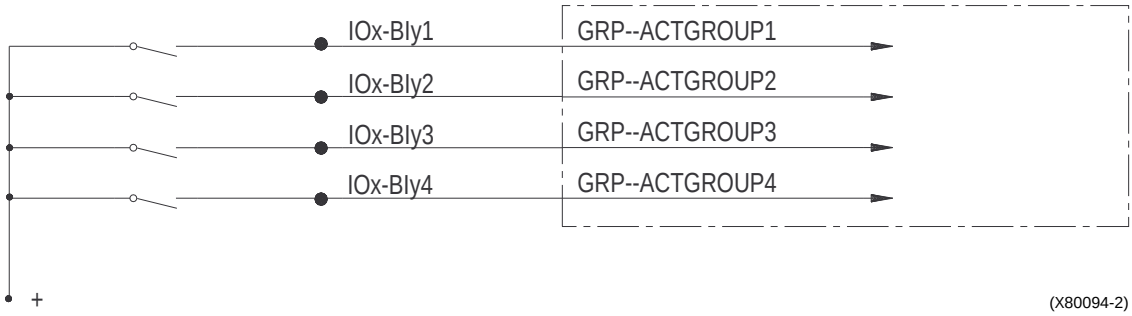

Fig. 1

1.3 Testing

Configure the function input signals GRP--ACTGRPn to the corresponding binary inputs of a terminal and observe on the built-in MMI the information on active setting group under the menu:

Service Report
Active Group

The information presented must always correspond to the activated input.

1.4 Appendix

1.4.1 Terminal diagram

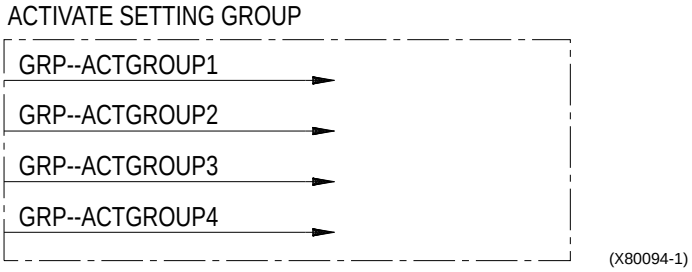

Fig. 2 Simplified terminal diagram of the function.

1.4.2 Signal list

CONNECTIONS:	TO:	SETTING:	DESCRIPTION:
GRP--ACTGROUP1	BI		Signal activates the setting group No. 1 Warning: configure it to binary inputs only
GRP--ACTGROUP2	BI		Signal activates the setting group No. 2 Warning: configure it to binary inputs only
GRP--ACTGROUP3	BI		Signal activates the setting group No. 3 Warning: configure it to binary inputs only
GRP--ACTGROUP4	BI		Signal activates the setting group No. 4 Warning: configure it to binary inputs only