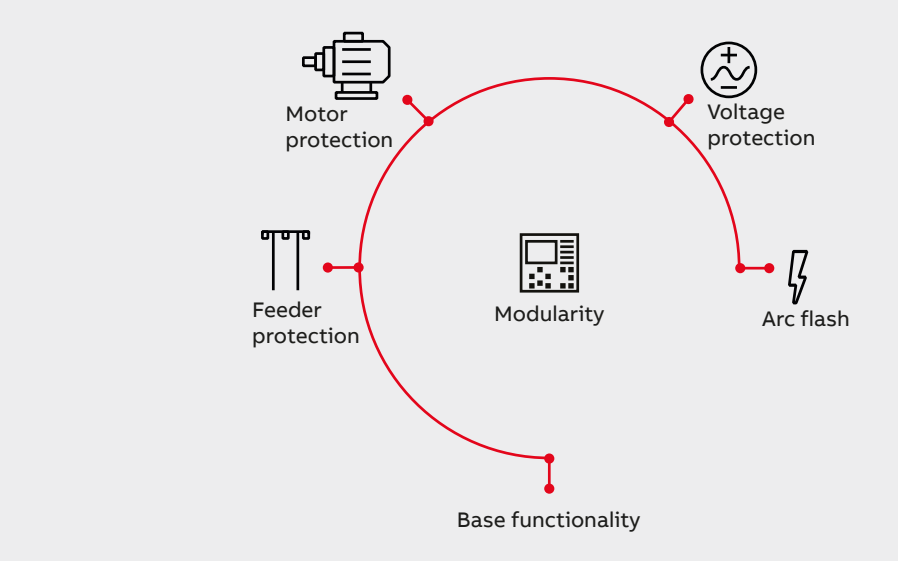
Protection and control REX610

All-in-one protection for any basic power distribution application



REX610 is a freely configurable all-in-one protection relay that covers the full range of basic power distribution applications, without forgoing simplicity. The small number of variants translates into easy ordering, set up, use and maintenance. Rich in functionality, with a fully modular hardware unlocking all available functionality, REX610 represents both a flexible and cost-effective choice.

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01 Applications for Protection and control REX610

One device for all basic applications – and more

- Latest addition to ABB's renowned Relion® protection and control family of relays
- Builds on ABB's strong heritage of freely configurable multifunctional relays
- Rich in functionality – covering the full range of basic utility applications
- Modular and scalable design for easy customization
- Extensive range of default functionality, including communication, for easy alterations
- Flexible and cost-effective choice

Simplicity as a hallmark of REX610

- Easy to order, set up, use and maintain
- Pure plug-and-play solution with modular hardware unlocking all available functionality
- Easy addition, removal and replacement of modules
- Withdrawable plug-in unit for swift replacement and short meantime to repair
- Easy to keep in stock with small number of variants

Future-proofed for an evolving grid

- Access to an extensive range of default functionality via ABB's relay setting and configuration tool, PCM600
- New functionality continuously accessible via firmware updates
- Modifications possible throughout the product life cycle with modular and scalable design
- IEC 61850-compliant communication and interoperability between substation automation devices

Extensive life cycle services for optimal usability

- Extensive life cycle services for safe, reliable and cost-effective protection solutions with predictable maintenance costs
- Web-based data-sharing and backup service with access to firmware updates as optional add-on – ABB Ability™ Backup Management for electrical systems, Data Care
- Tailor-made retrofit adapter for smooth replacement of SPACOM with REX610 relays

Function description	IEC 60617	ANSI	IEC 61850	CT	CT & VT	VT
Protection						
Three-phase non-directional overcurrent protection, low stage	3I>	51P-1	PHLPTOC	1	1	
Three-phase non-directional overcurrent protection, high stage	3I>>	51P-2	PHHPTOC	2	2	
Three-phase non-directional overcurrent protection, instantaneous stage	3I>>>	50P	PHIPTOC	1	1	
Three-phase directional overcurrent protection, low stage	3I> ->	67P/51P-1	DPHLPDOC		2	
Three-phase directional overcurrent protection, high stage	3I>> ->	67P/51P-2	DPHHPDOC		1	
Non-directional earth-fault protection, low stage	Io>	51G/51N-1	EFLPTOC	2	2	
Non-directional earth-fault protection, high stage	Io>>	51G/51N-2	EFHPTOC	1	1	
Non-directional earth-fault protection, instantaneous stage	Io>>>	50G/50N	EFIPTOC	1	1	
Directional earth-fault protection, low stage	Io> ->	67G/N-1 51G/N-1	DEFLPDEF		2	
Directional earth-fault protection, high stage	Io>> ->	67G/N-1 51G/N-2	DEFHPDEF		1	
Three-phase inrush detector	3I2f>	68HB	INRPHAR	1	1	
Three-phase thermal protection for feeders, cables and distrib. transformers	3Ith>F	49F	T1PTTR	1	1	
Negative-sequence overcurrent protection	I2>M	46M	NSPTOC	2	2	
Phase discontinuity / Single phasing protection for motor	I2/I1>	46PD	PDNSPTOC	1	1	
Loss of phase, undercurrent	3I<	37	PHPTUC	1	1	
Three-phase undervoltage protection	3U<	27	PHPTUV		3	3
Three-phase overvoltage protection	3U>	59	PHPTOV		3	3
Residual overvoltage protection	Uo>	59G/59N	ROVPTOV		3	3
Circuit breaker failure protection	3I>/Io>BF	50BF	CCBRBRF	1	1	
Master trip	Master Trip	94/86	TRPPTRC	2	2	2
Multipurpose protection	MAP	MAP	MAPGAPC	10	10	10
Arc protection	ARC	AFD	ARCSARC	3	3	3
Arc function block	FSTADAGGIO	FSTADAGGIO	FSTADAGGIO	3	3	3
Emergency start-up	ESTART	EST,62	ESMGAPC	1	1	
Motor load jam protection	Ist>	50TDJAM	JAMPTOC	1	1	
Loss of load supervision	3I<	37	LOFLPTUC	1	1	
Negative-sequence overcurrent protection for machines	I2>M	46M	MNSPTOC	1	1	
Thermal overload protection for motors	3Ith>M	49M	MPTTR	1	1	
Negative-sequence overvoltage protection	U2>	59NS	NSPTOV		1	1
Phase reversal protection	I2>>	46R	PREVPTOC	1	1	
Motor start-up supervision	Is2t n<	49,66,48,50TDLR	STTPMSU	1	1	
Positive-sequence undervoltage protection	U1<	27PS	PSPTUV		1	1
Frequency protection	f>/f<,df/dt	81	FRPFRQ		4	4
Control						
Circuit-breaker control	I <-> O CB	52	CBXCBR	1	1	1
Disconnector position indication	I <-> O DC	29DS	DCSXSWI	1	1	1
Earthing switch position indication	I <-> O ES	29GS	ESSXSWI	1	1	1
Synchronism and energizing check	SYNC	25	SECRSYN		1	1
Autoreclosing	O -> I	79	DARREC	1	1	1
Condition monitoring and supervision						
Trip circuit supervision	TCS	TCM	TCSSCBR	2	2	2
Fuse failure supervision	FUSEF	VCM, 60	SEQSPVC		1	
Circuit-breaker condition monitoring	CBCM	52CM	SSCBR	1	1	
Current circuit supervision	MCS 3I	CCM	CCSPVC	1	1	
Runtime counter for machines and devices	OPTS	OPTM	MDSOPT	1	1	1

Measurement						
Three-phase current measurement	3I	IA, IB, IC	CMMXU	1	1	
Residual current measurement	Io	IG	RESCMMXU	1	1	
Sequence current measurement	I1, I2, I0	I1, I2, I0	CSMSQI	1	1	
Three-phase voltage measurement	3U	VA, VB, VC	VMMXU		1	1
Residual voltage measurement	Uo	VG/VN	RESVMMXU		1	1
Three-phase voltage measurement	3U	VA, VB, VC	VMMXU		2	2
Frequency measurement	f	f	FMMXU		2	2
Three-phase power and energy measurement	P, E	P, E	PEMMXU		1	
Sequence voltage measurement	U1, U2, U0	V1, V2, V0	VSMSQI		1	1
Traditional LED indication						
Programmable LED control	LED	LED	LED	10	10	10
Logging functions						
Disturbance recorder (common functionality)	DR	DFR	RDRE	1	1	1
Disturbance recorder, analog channels 1…8	A1RADR	A1RADR	A1RADR	1	1	1
Disturbance recorder, binary channels 1...32	B1RBDR	B1RBDR	B1RBDR	1	1	1
Communication protocols						
IEC 61850-8-1 MMS	MMSLPRT	MMSLPRT	MMSLPRT	1	1	1
IEC 61850-8-1 GOOSE	GSELPRT	GSELPRT	GSELPRT	1	1	1
Modbus protocol	MBSLPRT	MBSLPRT	MBSLPRT	2	2	2
Hardware						
Current inputs				4	4	
Voltage inputs					4	4
Binary inputs/outputs (more to follow)				6 / 6	6 / 6	6 / 6
RJ-45/RS485 ports (more to follow)				1 / 1	1 / 1	1 / 1

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