

Modulex3 Protection MXAM30A

Multifunction numerical three phase and earth fault overcurrent relay for HV, MV, LV applications: 50 - 51 - 51 - 50N - 51N - 51N

Protection functions

- Triple three phase overcurrent threshold (l> ; l> > ; l> >).
- First threshold independent or multi-curve inverse time (curve A, B, C, IEC STD); second and third threshold independent time.
- Third threshold with cold load start function (threshold doubled for a settable time from CB's closing).
- Triple earth fault overcurrent threshold (lo>; lo>>; lo>>>)
- First threshold independent or multi-curve inverse time (curve A, B, C, IEC STD); second and third threshold independent time.
- Starting outputs (alarm), instantaneous or delayed.
- Breaker failure detection.
- Two setting groups, switch in operation: from HMI, Digital input or Communication.

Measurement functions

- Three phase current.
- Zero sequence current.
- Primary current values.
- Max current demand record.
- Measurement, computation and memorisation of wear index (Σl²t) of circuit breaker poles for maintenance purpose.

Recording functions

- Record of the last fault (last eight) with date and time (YY/MM/DD hh:mm:ss.mmm) and fault values.
- Record of the logical status change (last 32) included thresholds, digital inputs, timers, with date and time (YY/MM/DD hh:mm:ss.mmm)
- Disturbance recording with record of all input signals and correlated logical status; possibility to choose the cause determining trigger and define the recording time before and after trigger (for a total recording time of 2.5 s).
- Record on counters and LED's.

Monitoring and control: digital inputs and outputs

- 3 freely assignable inputs (controls, blocks, possibility of logic selectivity schemes).
- 6 output relays one of which is for diagnostic and 5 freely assignable to the functions.



Communication

- Rear serial port for connection to Lonworks[™] network at 1.25 Mbit/s.
- Alternatively: serial port RS485 and Modbus protocol.

Human Machine Interface

- Local HMI with keyboard, backlit LCD display, 12 LED's, 8 of which are freely assignable to the functions.
- Local HMI by PC connected to the front serial port.
- Remote interface by the Local Area Network.



Characteristics

Dual rated phase of (20 A continuou Dual rated earth fa	current In 1 / 5 A us - 1 s @ 500 A) ault current Ion
(10 A continuo Measurement rano	1 / 5 A us - 1 s @ 100 A) ue
Rated frequency fn Line CT In Line CT Ion	0 to 90 In peak 0 to 50 In rms 0 to 18 Ion peak 0 to 10 Ion rms 50 / 60 Hz 10 to 10000 A 10 to 10000 A
l> Independent time Dependent time	0.10 to 5.00 ln 0.02 to 600 s Curve A / B / C K= 0.01 to 30.00
l> > Independent time l> >> Independent time Cold load start tim	0.10 to 40.00 ln 0.02 to 99.99 s 0.10 to 40.00 ln 0.02 to 99.99 s e0.02 to 99.99 s
lo> Independent time Dependent time	0.02 to 2.00 lon 0.02 to 600 s Curve A / B / C K= 0.01 to 30.00
lo> > 0 Independent time lo> > 0 Independent time	0.02 to 10.00 lon 0.02 to 99.99 s 0.02 to 10.00 lon 0.02 to 99.99 s
Auxiliary supply Uaux: or: Uaux: or: Burden:	19 to 100 Vd.c. 19 to 72 Va.c. 64 to 300 Vd.c. 64 to 275 Va.c. 5 W / 10 W d.c.

Output relay conta	acts
Rated current	5 A
Breaking	
0.3 A @ 110	Vd.c., L/ R= 40 ms
Make and carry	30 A for 0.5 s
Mechanical life	10 ⁶ operations

10VA / 20VA a.c.

Standards EN 60255-6 IEC 255





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