7SR210 Non-Directional Relay
Instrumentation Guide

(Software Version 2435H85008R7a-7a)

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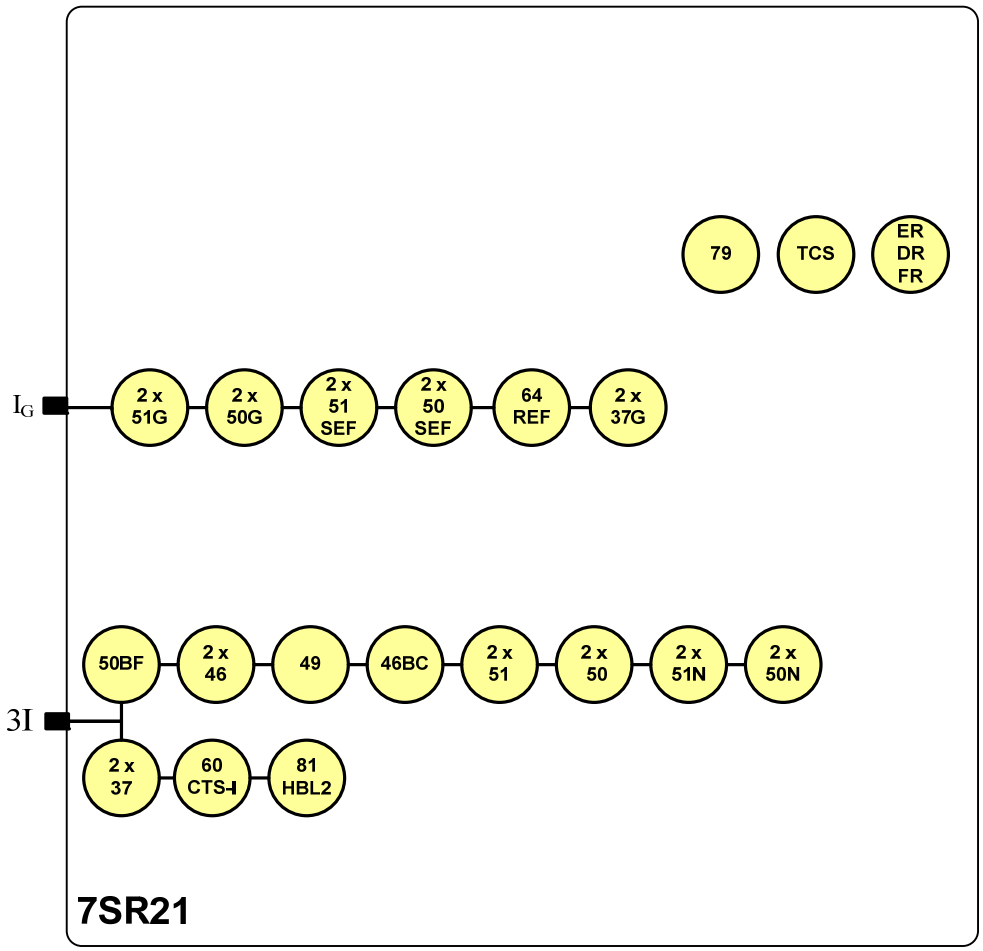
1.Function Diagram



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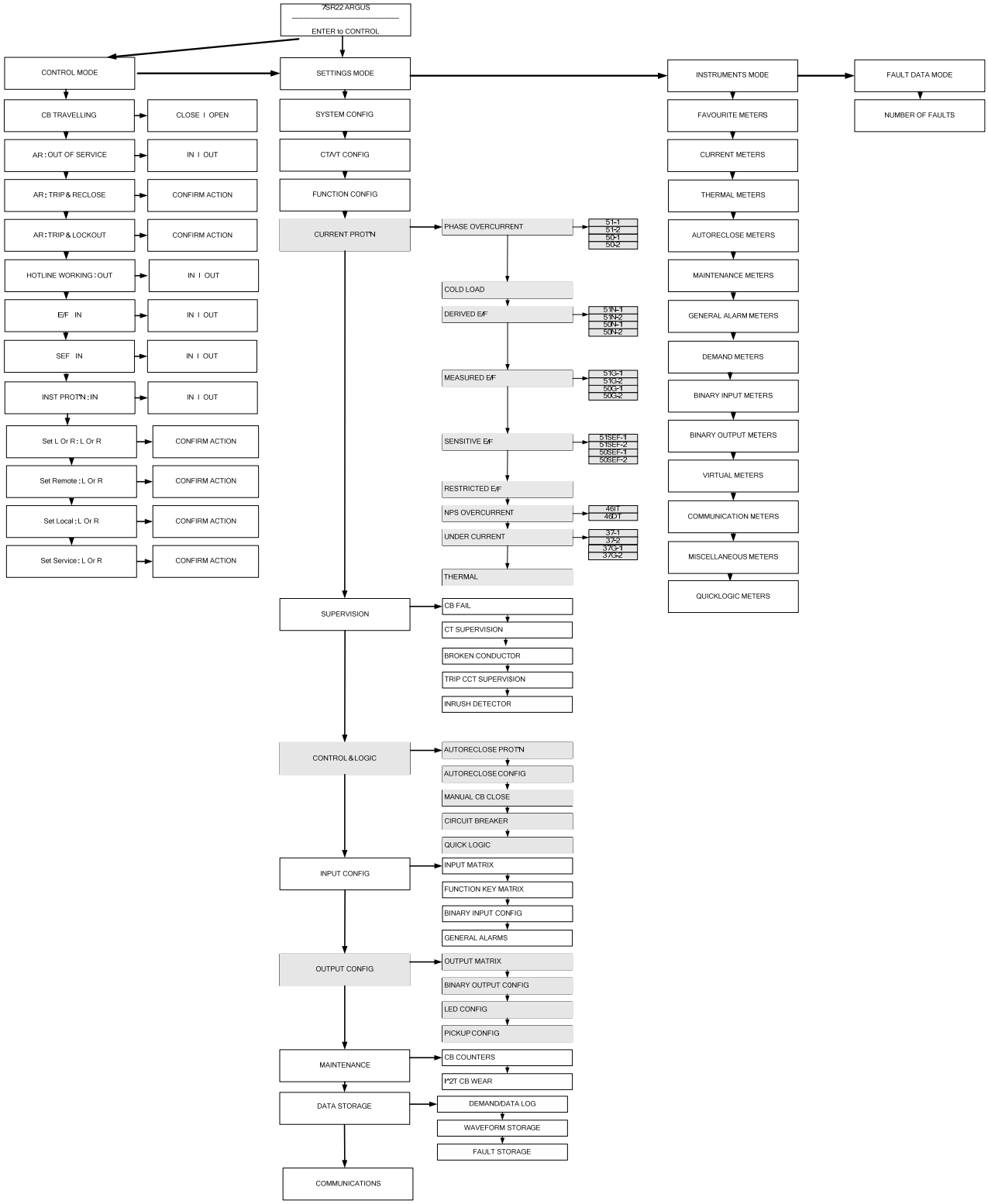
2.Menu Structure



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1. Relay Instrumentation

1.1. Favourite Meters

Instrument	Description
---------- FAVOURITE METERS > to view	This allows the user to view his previously constructed list of 'favourite meters' by pressing TEST/RESET ► button and the READ DOWN button to scroll though the meters added to this sub-group To construct a sub-group of favourite meters, first go to the desired meter then press ENTER this will cause a message to appear on the LCD 'Add To Favourites YES pressing ENTER again will add this to the FAVOURITE METERS Sub-menu. To remove a meter from the FAVOURITE METERS sub-menu go to that meter each in the FAVOURITE METERS sub-menu or at its Primary location press ENTER and the message 'Remove From Favourites' will appear press ENTER again and this meter will be removed from the FAVOURITE METERS sub-group

1.2. Current Meters

Instrument	Description
---------- CURRENT METERS > to view ----------	This is the sub-group that includes all the meters that are associated with Current TEST/RESET ► allows access to this sub-group
Primary Current Ia 0.00A Ib 0.00A Ic 0.00A	Displays the 3 phase currents Primary RMS values
Secondary Current Ia 0.00A Ib 0.00A Ic 0.00A	Displays the 3 phase currents Secondary RMS values
Nom Current Ia 0.00xIn ----^{o} Ib 0.00xIn ----^{o} Ic 0.00xIn ----^{o}	Displays the 3 phase currents Nominal RMS values & phase angles with respect to PPS current.
Pri Earth Current In 0.000A Ig 0.000A	Displays the 3 Earth currents Primary RMS values
Sec Earth Current In 0.000A Ig 0.000A	Displays the 3 Earth currents Secondary RMS values
Nom Earth Current In 0.000xIn ----^{o} Ig 0.000xIn ----^{o}	Displays the 3 Earth currents Nominal RMS values & phase angles with respect to PPS current.
I Seq Components Izps 0.00xIn ----^{o} Ipps 0.00xIn ----^{o} Inps 0.00xIn ----^{o}	Displays the Current Sequence components Nominal RMS values & phase angles with respect to PPS current.
2nd Harmonic Current Ia 0.00xIn Ib 0.00xIn Ic 0.00xIn	Displays the 3 phase currents 2nd Harmonic components Nominal RMS values.

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1.3. Thermal Meters

Instrument	Description
---------- THERMAL METERS > to view	This is the sub-group that includes all the meters that are associated with Thermal TEST/RESET ► allows access to this sub-group
Thermal Status Phase A 0.0% Phase B 0.0% Phase C 0.0%	Displays the thermal capacity

1.4. Auto-Reclose Meters

Instrument	Description
---------- AUTORECLOSE METERS > to view ----------	This is the sub-group that includes all the meters that are associated with Autoreclose TEST/RESET ► allows access to this sub-group. Only seen on models that have the 79 option
Autoreclose Status Out Of Service Close Shot 0	Status of the autoreclose.

1.5. Maintenance Meters

Instrument	Description
---------- MAINTENANCE METERS > to view ----------	This is the sub-group that includes all the meters that are associated with Maintenance TEST/RESET ► allows access to this sub-group
CB Total Trips Count 0 Target 100	Displays the number of CB trips experienced by the CB
CB Delta Trips Count 0 Target 100	Displays the number of CB trips experienced by the CB
CB Count To AR Block Count 0 Target 100	Displays the number of CB trips experienced by the CB. When the target is reached the relay will only do 1 Delayed Trip to Lockout.
CB Freq Ops Count Count 0 Target 10	Displays the number of CB trips experienced by the CB over the last rolling 1 hr period. When the target is reached the relay will only do 1 Delayed Trip to Lockout.
CB Wear Phase A 0.00MA^2s Phase B 0.00MA^2s Phase C 0.00MA^2s	Displays the current measure of circuit breaker wear.
CB Trip Time 0.0ms	Displays the trip time for the circuit breaker.

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1.6. General Alarm Meters

Instrument	Description
---------- GENERAL ALARM METERS > to view ----------	This is the sub-group that includes all the meters that are associated with the Binary inputs TEST/RESET ► allows access to this sub-group
General Alarms ---------- ALARM 1 Cleared	Displays the state of General Alarm
…	
General Alarms ---------- ALARM 12 Cleared	

1.7. Demand Meters

Instrument	Description
---------- DEMAND METERS > to view ----------	This is the sub-group that includes all the meters that are associated with the demand metering. TEST/RESET ► allows access to this sub-group
I Phase A Demand Max 0.00A Min 0.00A Mean 0.00A	Shows the Max, Min and Mean for Phase A.
I Phase B Demand Max 0.00A Min 0.00A Mean 0.00A	Shows the Max, Min and Mean for Phase B.
I Phase C Demand Max 0.00A Min 0.00A Mean 0.00A	Shows the Max, Min and Mean for Phase C.
Power P 3P Demand Max 0.00W Min 0.00W Mean 0.00W	Shows the Max, Min and Mean for Power P 3P Demand.
Power Q 3P Demand Max 0.00VAr Min 0.00VAr Mean 0.00VAr	Shows the Max, Min and Mean for Power Q 3P Demand.
Power S 3P Demand Max 0.00VA Min 0.00VA Mean 0.00VA	Shows the Max, Min and Mean for Power S 3P Demand.

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1.8. Binary Input Meters

Instrument	Description
---------- BINARY INPUT METERS > to view ----------	This is the sub-group that includes all the meters that are associated with the Binary inputs TEST/RESET ► allows access to this sub-group
BI 1-8 ---- ---- BI 9-9 -	Displays the state of DC binary inputs 1 to 9 (The number of binary inputs may vary depending on model)

1.9. Binary Output Meters

Instrument	Description
---------- BINARY OUTPUT METERS > to view ----------	This is the sub-group that includes all the meters that are associated with the Binary Outputs TEST/RESET ► allows access to this sub-group
BO 1-8 ---- ----	Displays the state of DC binary Outputs 1 to 8. (The number of binary outputs may vary depending on model)

1.10. Virtual Meters

Instrument	Description
---------- VIRTUAL METERS > to view ----------	This is the sub-group that shows the state of the virtual status inputs in the relay TEST/RESET ► allows access to this sub-group
V 1-8 ---- ---- V 9-16 ---- ----	Displays the state of Virtual Outputs 1 to 16 (The number of virtual inputs will vary depending on model)

1.11. Communication Meters

Instrument	Description
---------- COMMUNICATION METERS > to view ----------	This is the sub-group that includes all the meters that are associated with Communications ports TEST/RESET ► allows access to this sub-group
COM1 COM2 COM3 COM4	Displays which com ports are currently active
COM1 TRAFFIC Tx1 0 Rx1 0 Rx1 Errors 0	Displays traffic on Com1
COM2 TRAFFIC Tx2 0	Displays traffic on Com2

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Instrument	Description
Rx2 0 Rx2 Errors 0	
COM3 TRAFFIC Tx3 0 Rx3 0 Rx3 Errors 0	Displays traffic on Com3
COM4 TRAFFIC Tx4 0 Rx4 0 Rx4 Errors 0	Displays traffic on Com4

1.12. Miscellaneous Meters

Instrument	Description
---------- MISCELLANEOUS METERS > to view ----------	This is the sub-group that includes indication such as the relays time and date, the amount of fault and waveform records stored in the relay TEST/RESET ► allows access to this sub-group
Date 01/01/2000 Time 22:41:44 Waveform Recs 0 Fault Recs 0	This meter displays the date and time and the number of Fault records and Event records stored in the relay
Event Recs 0 Data Log Recs 0	

1.13. Quick Logic Meters

Instrument	Description
---------- QUICK LOGIC METERS > to view ----------	This is the sub-group that includes all the meters that are associated with QuickLogic. TEST/RESET ► allows access to this sub-group
E 1-8 ---- ---- E 9-16 ---- ----	Shows the state of all the equations
E1 Equation EQN =0 TMR 0-0 =0 CNT 0-1 =0	Shows the state of an individual equation. EQN shows the equation state. TMR shows the timer progress and state for the equation. CNT shows the count progress and state for the equation.
…	
E16 Equation EQN =0 TMR 0-0 =0 CNT 0-1 =0	Shows the state of an individual equation. EQN shows the equation state. TMR shows the timer progress and state for the equation. CNT shows the count progress and state for the equation.

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