

# ASP General Information Network Compliance & Authorisations

**Alert Number: GI17\_22**

**28 September 2022**

## **Subject: Ausgrid's Advance Distribution Management System (ADMS) Symbology Changes**

Dear ASPs,

You may be aware that Ausgrid is currently upgrading its Distribution Network Management System (DNMS) with an Advanced Distribution Management System (ADMS). The upgrade will enable a transformation in the way network access and outages are managed.

As a part of the current ADMS (Phase 1) roll out there will be some changes to the symbols used in Ausgrid's System Diagrams (11kV & Sub Transmission Networks). These symbols have been altered to simplify, consolidate and align to industry standards.

As the roll out of the ADMS takes place across Ausgrid's Distribution Network, you will start to see Certified Designs (CD) & Network Access Requests (NAR's) utilising these new symbols as we transition to the new standard. It is important that you and your staff familiarise yourselves with the symbology changes to minimise any potential safety impacts and risks with gaining access on the network.

A condensed list of symbols comparing the old with new has been provided for your information.

Please ensure this information is passed onto all relevant staff within your organisation.

If you have any concerns, questions, or feedback, please discuss with your Ausgrid representative.

Thank you

**Ausgrid**

**Network Compliance & Authorisation**

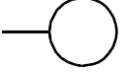
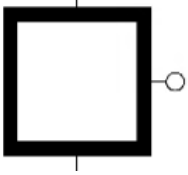
# ADMS Printed Symbology Changes 2022


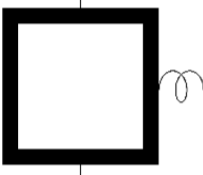
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
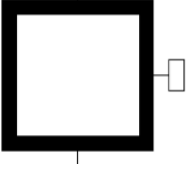
This document provides users a reference guide of printed symbols for ADMS.


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# Breakers & Reclosers | Property Symbols


Motor Operated	
ADMS	Example
	


Spring Charged	
ADMS	Example
	

Solenoid Operated	
ADMS	Example
	

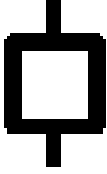
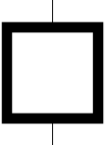
Hydraulic	
ADMS	Example
H	

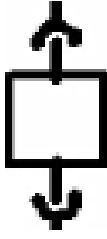
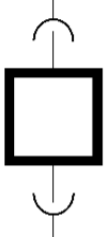
Air Blast	
ADMS	Example
A	

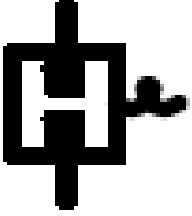
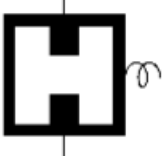
Vacuum	
ADMS	Example
V	



Gas SF6	
ADMS	Example
SF	



# Breakers & Reclosers



Circuit Breaker	
DNMS	ADMS
	
<p>OCB in Outdoor Type Switchyard or 132kV Circuit Switcher (Minimum Oil) or Cubicle Type OCB</p>	<p>(Printed Output will not display switch status. No internal label indicates oil type circuit breaker)</p>



Circuit Breaker (Rackable)	
DNMS	ADMS
	



SF6 Disconnecting Circuit Breaker	
DNMS	ADMS
	
	<p>(Suitable for issue of Access Permit as an isolation point)</p>

Low Voltage Network Protector	
DNMS	ADMS
	


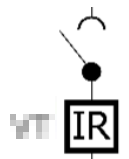
Low Voltage Air Circuit Breaker	
DNMS	ADMS
	


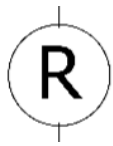
132kV Gas-filled Circuit Switcher	
DNMS	ADMS
	

Vacuum Contactor	
DNMS	ADMS
	
	<p>(Not suitable for issue of Access Permit as an isolation point)</p>

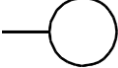
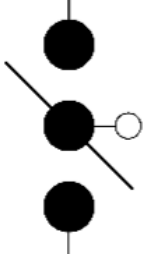
Automatic Circuit Recloser - Kyle	
DNMS	ADMS
	
	<p>(Suitable for issue of Access Permit as an isolation point)</p>


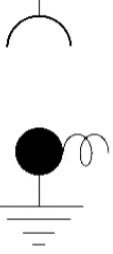
# Breakers & Reclosers

Automatic Circuit Recloser – S&C Intelliruptor	
DNMS	ADMS
	 <p>(Suitable for issue of Access Permit as an isolation point. VT (phase to phase) installed on both sides (where fitted))</p>


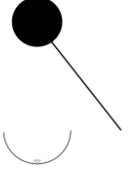
Automatic Circuit Recloser	
DNMS	ADMS
	 <p>(Not suitable for issue of Access Permit as an isolation point)</p>


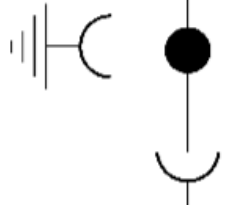
# Isolators & Disconnectors | Property Symbols



Motor Operated	
ADMS	Example
	


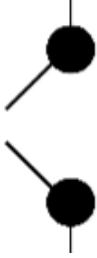
Spring Assisted	
ADMS	Example
	



# Isolators & Disconnectors


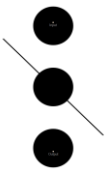
Gas Filled (SF6) Isolating or Earthing Switch	
DNMS	ADMS
	

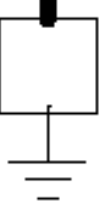

Gas Filled (SF6) Isolating & Earthing Switch	
DNMS	ADMS
	



Pantograph Isolating Switch	
DNMS	ADMS
	

End Pivoting Centre Break Isolating Switch	
DNMS	ADMS
	

Racking or Plugging Connection	
DNMS	ADMS
	

Centre Pivoting Double Break Isolating Switch	
DNMS	ADMS
	

Fault Thrower	
DNMS	ADMS
	

Earthing Switch	
DNMS	ADMS
	

# Isolators & Disconnectors

Underground to Overhead (UGOH) Connection	
DNMS	ADMS

Air Break Switch	
DNMS	ADMS

Interrupter Type Air Break Switch	
DNMS	ADMS
IS	

Load Break Type Air Break Switch	
DNMS	ADMS
LB	



Enclosed Load Break Switch	
DNMS	ADMS
VT	 (VT connection side indicated)


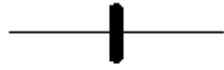

Sectionaliser Enclosed Load Break Switch	
DNMS	ADMS
 (VT Connection side indicated)	 (VT connection side indicated)



Isolating Links (Single Phase Operation)	
DNMS	ADMS



Isolating Links Bridged (Single Phase Operation)	
DNMS	ADMS

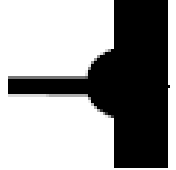

# Isolators & Disconnectors

Open Bonds/Taps	
DNMS	ADMS
	



Live Line Connector	
DNMS	ADMS
 (Wallsend)  LLC (Sydney)	

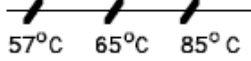




Brown Boveri Autolink	
DNMS	ADMS
	

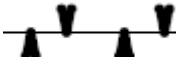

Haycolec Autolink	
DNMS	ADMS
	



Bus Connection Node	
DNMS	ADMS
	



# Overhead Conductors



Overhead Conductor	
DNMS	ADMS
 <p>(Overhead Conductors suitable for 75°C operation)</p>	 <p>(Overhead Conductors suitable for 75°C operation)</p>



Overhead Conductor (Temperature Dependent)	
DNMS	ADMS
 <p>57°C 65°C 85°C</p>	 <p>50 [°C]</p>
 <p>(100°C operation)</p>	 <p>100 [°C]</p>
 <p>(120°C operation)</p>	<p>(Dash-Dot-Dot) (Displays temperature label)</p>



High Voltage ABC (Aerial Bundled Conductor)	
DNMS	ADMS
	 <p>ABC</p> <p>(Dash-Dot) (Displays 'ABC' label)</p>

High Voltage CCT (Covered Conductor Thick)	
DNMS	ADMS
	 <p>CCT120</p> <p>(Dot-Dot) (Displays 'CCT' label)</p>

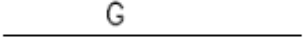

Overhead Conductor - Two Phase Construction	
DNMS	ADMS
	 <p>(Twin lines)</p>


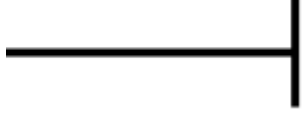
High Voltage CCT Two Phase Construction	
DNMS	ADMS
	 <p>CCT80 Phases: L1 L2</p> <p>(Dot-Dot) (Displays 'CCT' and number of phases)</p>



Single Wire Earth Return (SWER)	
DNMS	ADMS
	 <p>(Dot-Dot between twin lines)</p>

Open Bonds/Taps	
DNMS	ADMS
	

# Overhead Conductors

Large Gully Crossing	
DNMS	ADMS
	

Overhead Conductor End	
DNMS	ADMS
	

Connectivity Node	
DNMS	ADMS
	

# Underground Cables

Underground Cable	
DNMS	ADMS
	 (Dash-Dash)

Underground to Overhead (UGOH) Connection	
DNMS	ADMS

Cable Sealed End (cannot be energised)	
DNMS	ADMS

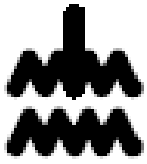
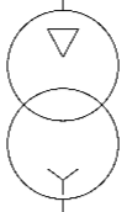
Cable Pot End (may be energised)	
DNMS	ADMS



Oil Filled Cable	
DNMS	ADMS


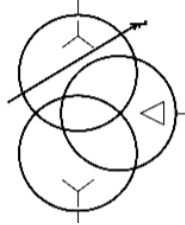
Gas Pressure Cable	
DNMS	ADMS


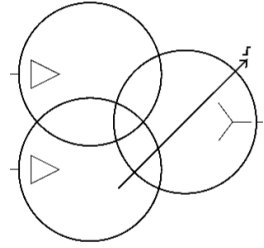
Connectivity Node	
DNMS	ADMS
	 (Nodes may appear on straight sections where a pot-ended tee joint exists)



# Transformers


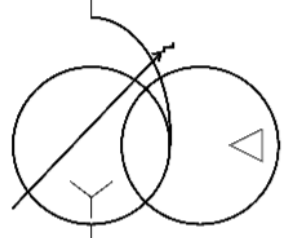
Two-Winding Transformer	
DNMS	ADMS
	



Two-Winding Transformer (On-Load Tap Changing)	
DNMS	ADMS
	

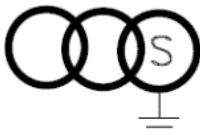
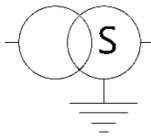
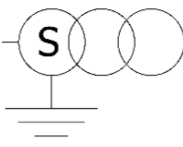
Three-Winding Transformer (On-Load Tap Changing)	
DNMS	ADMS
	

City Zone Type Three-Winding Transformer (On-Load Tap Changing)	
DNMS	ADMS
	

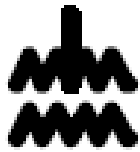
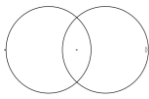
Auto Transformer or Regulator (On-Load Tap Changing)	
DNMS	ADMS
	


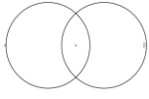
Auto Transformer Three-Winding (On-Load Tap Changing)	
DNMS	ADMS
	


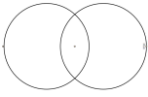
Earthing Transformer (Zig-Zag Winding)	
DNMS	ADMS
	


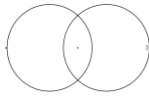
Single Wire Earth Return (SWER) Isolation Transformer	
DNMS	ADMS
	 (2 Winding)  (3 Winding)




# Transformers

Voltage Transformer	
DNMS	ADMS
 VT	 VT



Protection Voltage Transformer	
DNMS	ADMS
 PVT	 PVT


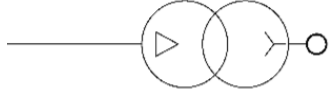
Metering Voltage Transformer	
DNMS	ADMS
 MVT	 MVT



Capacitive Voltage Transformer	
DNMS	ADMS
 CVT	 CVT


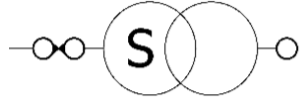
Current Transformer	
DNMS	ADMS
 	

# Transformers


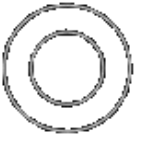
Pole Transformer with Fuses	
DNMS	ADMS
	



Pole Transformer without Local Dropout Fuses	
DNMS	ADMS
	 (Dropout fuses are not present)


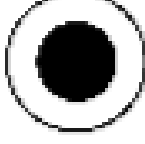
Pole Transformer with Bridged Fuses	
DNMS	ADMS
	

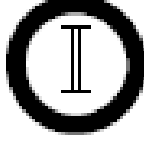

Single Wire Earth Return (SWER) Pole Transformer	
DNMS	ADMS
	


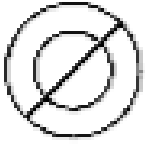
# Protection & Miscellaneous



3 Phase Overcurrent	
DNMS	ADMS
	


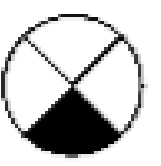
Summated Overcurrent	
DNMS	ADMS
	



2 Phase Overcurrent & Earth Fault	
DNMS	ADMS
	

Instantaneous Overcurrent	
DNMS	ADMS
	

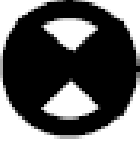

Combined Overcurrent & Differential (Fuse Relay)	
DNMS	ADMS
	

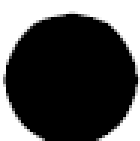

3 Phase Current (Fuse Relay)	
DNMS	ADMS
	



3 Phase Overcurrent (Shunt Fuse)	
DNMS	ADMS
	


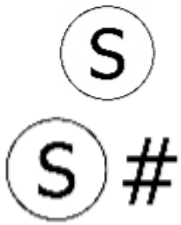
Overcurrent & Earth Fault (Fuse Relay)	
DNMS	ADMS
	



# Protection & Miscellaneous



Overcurrent & Earth Fault (Shunt Fuse)	
DNMS	ADMS
	


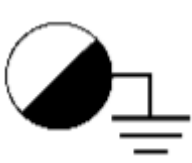
Earth Fault	
DNMS	ADMS
	


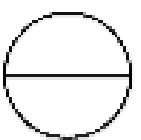
Restricted Earth Fault	
DNMS	ADMS
	

Sensitive Earth Fault	
DNMS	ADMS
 (Must be checked after switching. Reset if required.)	 (Must be checked after switching. Reset if required.)

Frame Leakage	
DNMS	ADMS
	

Balanced Voltage checked by Earth Fault	
DNMS	ADMS
	

Combined Frame Leakage and Differential Leakage	
DNMS	ADMS
	

Translay	
DNMS	ADMS
	

# Protection & Miscellaneous

Translay checked by I.O.C.	
DNMS	ADMS

Balanced Voltage or Differential	
DNMS	ADMS
(Restricted Earth Fault Differential)	(Restricted Earth Fault Differential)

Tx Overcurrent Relay trips feeder CB at Zone (City 11kV)	
DNMS	ADMS

Differential & Instantaneous Differential	
DNMS	ADMS



3 Phase Directional Overcurrent	
DNMS	ADMS



Directional Earth Fault	
DNMS	ADMS
(Arrow in tripping direction)	(Arrow in tripping direction)



3 Phase Directional Overcurrent & Earth Fault	
DNMS	ADMS
(Arrow in tripping direction)	(Arrow in tripping direction)



2 Phase Directional Overcurrent & Earth Fault	
DNMS	ADMS
(Arrow in tripping direction)	(Arrow in tripping direction)

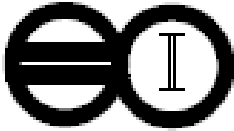

# Protection & Miscellaneous



Reverse Power	
DNMS	ADMS
	



Split Conductor or Unbalanced Voltage / Current	
DNMS	ADMS
	



Busbar Protection	
DNMS	ADMS
	

Pilot Wire or Line Differential	
DNMS	ADMS
	



Pilot Wire or Line Differential checked by I.O.C.	
DNMS	ADMS
	



Pilot Wire or Line Differential checked by Distance	
DNMS	ADMS
	


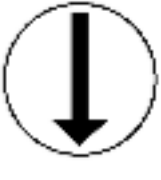
Distance Protection (Selecta Mho or similar)	
DNMS	ADMS
	


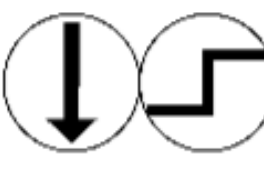
Differentially Modified Distance Protection	
DNMS	ADMS
	

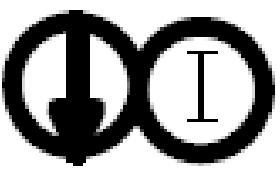
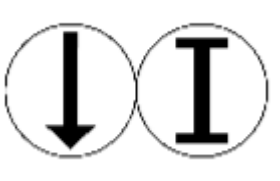
# Protection & Miscellaneous



Intertrip Send & Receive	
DNMS	ADMS
	



Intertrip Send	
DNMS	ADMS
	
(Arrow away from CB)	(Arrow away from CB)

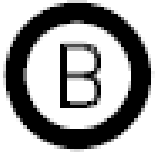

Intertrip Receive	
DNMS	ADMS
	
(Arrow towards CB)	(Arrow towards CB)

Intertrip Receive checked by Distance	
DNMS	ADMS
	



Intertrip Receive checked by I.O.C	
DNMS	ADMS
	





Intertrip Receive checked by Distance & I.O.C	
DNMS	ADMS
	



Negative Sequence Protection	
DNMS	ADMS
	



Buchholz	
DNMS	ADMS
	



# Protection & Miscellaneous



Pilot Interlocking	
DNMS	ADMS
	
(Using Coloured Pilots in ACB CBD-type Substation)	(Using Coloured Pilots in ACB CBD-type Substation)



Pilot Interlocking (Non CBD-type)	
DNMS	ADMS
  SCR #xxx	  SCR #xxx



Compensation Current Transformer	
DNMS	ADMS
	

Gas Impulse	
DNMS	ADMS
	



Low Gas Pressure Trip	
DNMS	ADMS
	



Low Oil	
DNMS	ADMS
	



Oil Surge	
DNMS	ADMS
	

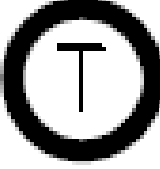

Overvoltage	
DNMS	ADMS
	



# Protection & Miscellaneous

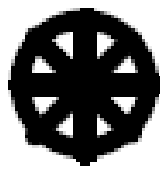

Undervoltage	
DNMS	ADMS
	



Residual Voltage (Phase Loss)	
DNMS	ADMS
	



Hot Winding Protection	
DNMS	ADMS
	

Between Taps Trip or Thermal Trip or Load Relief	
DNMS	ADMS
	



Loss of Cooling Water, Oil or Gas Flow	
DNMS	ADMS
	



Refer to Control Room Advice	
DNMS	ADMS
	



Pilot Sharing	
DNMS	ADMS
	
(Refer to Relay Test Instructions for details)	(Refer to Relay Test Instructions for details)



Harmonic Overload Trip	
DNMS	ADMS
	



# Protection & Miscellaneous

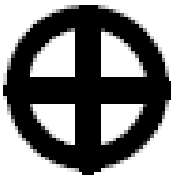
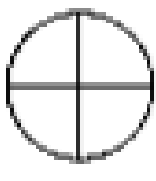
Under Frequency Trip	
DNMS	ADMS
	



Over Frequency Trip	
DNMS	ADMS
	



Rate of Change of Frequency	
DNMS	ADMS
	

Neutral Voltage Displacement	
DNMS	ADMS
	



Synchronising Check Relay	
DNMS	ADMS
	


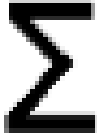
I.O.C Reach	
DNMS	ADMS
	



Trip Coils Paralleled	
DNMS	ADMS
	



Pilot Auxiliary Switches Fitted	
DNMS	ADMS
	



# Protection & Miscellaneous



Protection Duplicated	
DNMS	ADMS
	

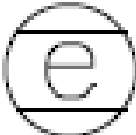

Protection Over Feeder Summated	
DNMS	ADMS
	



Backup / Local Backup	
DNMS	ADMS
	

No Pallet Switches	
DNMS	ADMS
 (Bridge Pilots before closing HV Switch)	 (Bridge Pilots before closing HV Switch)



Electro-Mechanical Earth Fault Indicator	
DNMS	ADMS
 (Approx. 60 Amp PU)	 (Approx. 60 Amp PU)



Electro-Mechanical Earth Fault Indicator	
DNMS	ADMS
 (Approx. 160 Amp or greater PU)	 (Approx. 160 Amp or greater PU)



Self-Powered Electronic Earth Fault Indicator	
DNMS	ADMS
 (Approx 100 Amp or greater PU. Flair 21D Type)	 (Approx 100 Amp or greater PU. Flair 21D Type)


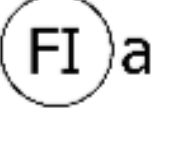
Battery Powered Electronic Earth Fault Indicator	
DNMS	ADMS
 (Approx 100 Amp or greater PU. Flair 23D, Sigma F+E 3, Sigma F+E 3 2.0, Earth Zero Flag, Compass B)	 (Approx 100 Amp or greater PU. Flair 23D, Sigma F+E 3, Sigma F+E 3 2.0, Earth Zero Flag, Compass B)



# Protection & Miscellaneous

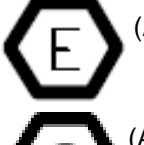
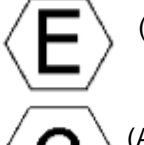
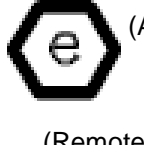
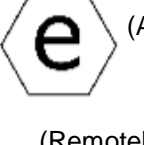
Horstmann Liquid Type Earth Fault Indicator	
DNMS	ADMS
	
(Approx. 600 Amp PU)	(Approx. 600 Amp PU)


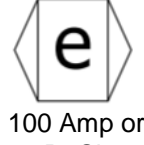
Horstmann Liquid Type Earth Fault Indicator	
DNMS	ADMS
	
(Approx. 2000 Amp PU at 132 kV)	(Approx. 2000 Amp PU at 132 kV)





Line Fault Indicator	
DNMS	ADMS
	
(Approx. 400 Amp PU at 11kV, 2000 Amp PU at 132kV)	(Approx. 400 Amp PU at 11kV, 2000 Amp PU at 132kV)

Line Fault Indicator (Auto Resetting)	
DNMS	ADMS
	
(RPU3 Type)	(RPU3 Type)



Sensitive Earth Fault Indicator	
DNMS	ADMS
	
(Remotely Viewable)	(Remotely Viewable)



Electro-Mechanical Earth Fault Indicator	
DNMS	ADMS
 (Approx 60 Amp Prim PU)	 (Approx 60 Amp Prim PU)
 (Approx 160 Amp or greater PU)	 (Approx 160 Amp or greater PU)
(Remotely Viewable)	(Remotely Viewable)



Battery Powered Electronic Earth Fault Indicator	
DNMS	ADMS
	
(Approx 100 Amp or greater PU. Flair 23D, Sigma F+E 3, Sigma F+E 3 2.0, Earth Zero Flag, Compass B) (Remotely Viewable & Resettable)	(Approx 100 Amp or greater PU. Flair 23D, Sigma F+E 3, Sigma F+E 3 2.0, Earth Zero Flag, Compass B) (Remotely Viewable & Resettable)



Line Fault Indicator	
DNMS	ADMS
 (Variable PU)	 (Variable PU)
 (Fixed PU)	 (Fixed PU)
(Remotely Viewable)	(Remotely Viewable)



# Protection & Miscellaneous



Fault Detection	
DNMS	ADMS
	
(Remotely Viewable. Protection symbols indicate trigger)	(Remotely Viewable. Protection symbols indicate trigger)



Phase Loss Indicator	
DNMS	ADMS
	
(Remotely Viewable)	(Remotely Viewable)



Voltage Detector	
DNMS	ADMS
	
(Remotely Viewable)	(Remotely Viewable)

Automatic Line Sectionalising	
DNMS	ADMS
	


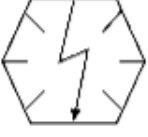
Non-SCADA Automatic Closing / Reclosing	
DNMS	ADMS
	

Automatic Reclosing	
DNMS	ADMS
	

Automatic Closing	
DNMS	ADMS
	



Optical Arc Fault	
DNMS	ADMS
	


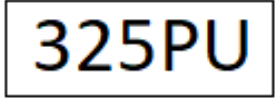
# Protection & Miscellaneous


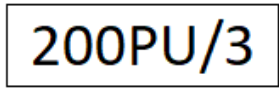
Optical Arc Fault	
DNMS	ADMS
	
(Remotely Viewable)	(Remotely Viewable)



Automatic Reclose	
DNMS	ADMS
RSBP	RSBP
(Check synchronising with no volt bypass)	(Check synchronising with no volt bypass)



Dead Line Blocking	
DNMS	ADMS
DLB	DLB

Balanced Protection	
DNMS	ADMS
	
(May need to be rendered non-auto prior to operating switch)	(May need to be rendered non-auto prior to operating switch)



Generic Element: Text in Rectangle	
DNMS	ADMS
	
(Values contained in this rectangle refer to Overload Relay Pick Up setting less than 100% of Feeder or Transformer ratings)	(Values contained in this rectangle refer to Overload Relay Pick Up setting less than 100% of Feeder or Transformer ratings)


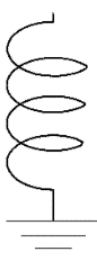
Generic Element: Text in Rectangle	
DNMS	ADMS
	
(For Automatic Circuit Recloser: 200 Amp Pick Up, 3 Recloses to Lock Out)	(For Automatic Circuit Recloser: 200 Amp Pick Up, 3 Recloses to Lock Out)



Generic Element: Text in Rectangle	
DNMS	ADMS
	
(Protection may need to be rendered Auto prior to operating switch)	(Protection may need to be rendered Auto prior to operating switch)


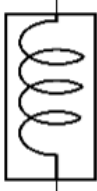
Resistor	
DNMS	ADMS
	


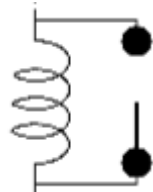
# Protection & Miscellaneous

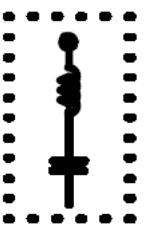
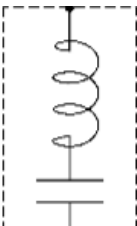
Capacitor	
DNMS	ADMS
	



Air Core Reactor	
DNMS	ADMS
	



Wave Trap	
DNMS	ADMS
	

Oil Immersed Reactor	
DNMS	ADMS
	



Oil Immersed Reactor with Bypass Switch	
DNMS	ADMS
	



Ripple Filter	
DNMS	ADMS
	


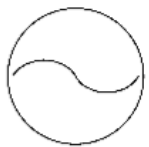
Equipment or Neutral of Apparatus Earthed	
DNMS	ADMS
	



Ventilating Fan or Cooling Fan	
DNMS	ADMS
	
(Used on Dry Type Tx)	(Used on Dry Type Tx)


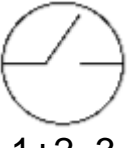
# Protection & Miscellaneous

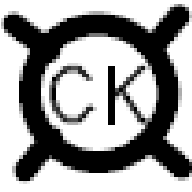

Portable Fans Required	
DNMS	ADMS
	
<p>(Portable Fans required prior to disconnection of a Tx or Feeder)</p>	<p>(Portable Fans required prior to disconnection of a Tx or Feeder)</p>



Frequency Injection Unit	
DNMS	ADMS
	

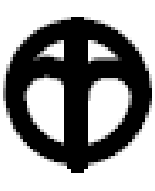
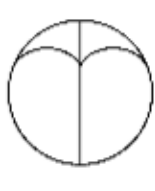
Generator	
DNMS	ADMS
	

Community Battery	
DNMS	ADMS
	

LV Bus Section or LV Distributor Bridging Links	
DNMS	ADMS
	
<p>(Normally Open) (Refer to NSEC007)</p> <p>1+2-3 ( / = Split LV Bus) ( + = Solid LV Bus) ( - = N/O Bus Sect Link/CB) ( x = N/C Bus Sect Link/CB)</p>	<p>(Normally Open) (Refer to NSEC007)</p> <p>1+2-3 ( / = Split LV Bus) ( + = Solid LV Bus) ( - = N/O Bus Sect Link/CB) ( x = N/C Bus Sect Link/CB)</p>

Castell Key	
DNMS	ADMS
	

Interlock (Mechanical or Electrical)	
DNMS	ADMS
	

Induction Regulator	
DNMS	ADMS
	

# Protection & Miscellaneous

Busbar with Cable End Box Connection	
DNMS	ADMS

Metal Clad Metering Unit	
DNMS	ADMS

LV Dist 13 & 14 Busbar Supply	
DNMS	ADMS
(Sydney City HV Diagrams Only)	(Sydney City HV Diagrams Only)

Low Voltage Link Box	
DNMS	ADMS
(Sydney City LV Diagrams Only)	(Sydney City LV Diagrams Only)



Street Light Control Point	
DNMS	ADMS
(Sydney City LV Diagrams Only)	(Sydney City LV Diagrams Only)



Remote Supervisory Control	
DNMS	ADMS

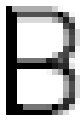

Remote Supervisory Control Dial Up Modem	
DNMS	ADMS



Remote Indication Only	
DNMS	ADMS



# Protection & Miscellaneous



Hot Line Tagging (Live Line Work)	
DNMS	ADMS
	

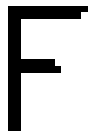
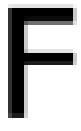
Work Mode	
DNMS	ADMS
	



Basement	
DNMS	ADMS
	

Underground	
DNMS	ADMS
	

Upper Level	
DNMS	ADMS
	

Control Point	
DNMS	ADMS
	

Fuse	
DNMS	ADMS
	

Fault Thrower	
DNMS	ADMS
	

# Protection & Miscellaneous

Bidirectional	
DNMS	ADMS
BD	BD

Non-Paralleling Distribution Centre	
DNMS	ADMS
N	N //

Equipment Non-Automatic	
DNMS	ADMS
NA	NA
(Can be made Auto / Non Auto by Operator)	(Can be made Auto / Non Auto by Operator)

Not in Service	
DNMS	ADMS
NIS	NIS

Equipment Non-Serviceable	
DNMS	ADMS
NS	NS

Non-Tripping	
DNMS	ADMS
NT	NT



Water Transport	
DNMS	ADMS
WT	WT

Train Transport	
DNMS	ADMS
TT	TT

# Protection & Miscellaneous

Cross Power Source	
DNMS	ADMS
XPS	XPS



'Stanger' Model "HDB" Single Bolt Isolator	
DNMS	ADMS
HDB	HDB

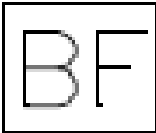

Flood Gate	
DNMS	ADMS
	

Ganged Switch or Large Gully Crossing	
DNMS	ADMS
G	G

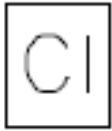

Normally Open	
DNMS	ADMS
O	O



Redundant Air Break Switch	
DNMS	ADMS
(R)	(R)



Assistance Required to Operate	
DNMS	ADMS
	
(Assistance required for District Operator to operate)	(Assistance required for District Operator to operate)



Bushfire Risk Feeders (Refer Policy)	
DNMS	ADMS
	



# Protection & Miscellaneous

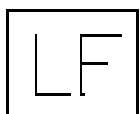

Isolation via Customer Switch Required	
DNMS	ADMS
	
(Transformers without LV isolation in substation necessitating operation of customer's switchgear when isolation is required)	(Transformers without LV isolation in substation necessitating operation of customer's switchgear when isolation is required)


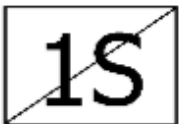
Difficult Access	
DNMS	ADMS
	



Confined Space	
DNMS	ADMS
	

Special Customer (Usually notified)	
DNMS	ADMS
	


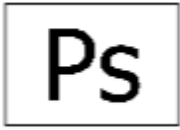
Davit Fall Arrest	
DNMS	ADMS
	
(Portable davit fall arrest and rescue system required to access substation)	(Portable davit fall arrest and rescue system required to access substation)

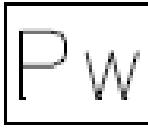

Ladder Fall Arrest	
DNMS	ADMS
	
(Ladder fall arrest system required to access substation)	(Ladder fall arrest system required to access substation)


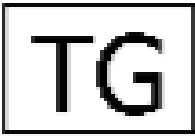
Recloser cannot be made non-reclosing	
DNMS	ADMS
	
(Unsuitable for Live Line isolation)	(Unsuitable for Live Line isolation)



Earthing Loop or Stirrup provided	
DNMS	ADMS
	
(To enable hand applied earthing)	(To enable hand applied earthing)



# Protection & Miscellaneous


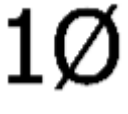
Local Council Pump (Sewerage)	
DNMS	ADMS
	



Local Council Pump (Water)	
DNMS	ADMS
	


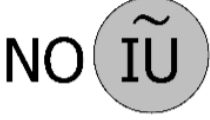
Transgrid Transmission Feeder	
DNMS	ADMS
	
<small>(Transmission Feeder where Transgrid is the nominated Coordinating Operator)</small>	<small>(Transmission Feeder where Transgrid is the nominated Coordinating Operator)</small>

CSACS Main Node	
DNMS	ADMS
	



Traffic Management	
DNMS	ADMS
	



Single Phase	
DNMS	ADMS
	

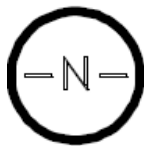

Two Phase	
DNMS	ADMS
	



Frequency Injection Unit Boundary	
DNMS	ADMS
	
<small>(Boundary between time switch &amp; FIU controlled off-peak hot water)</small>	<small>(Boundary between time switch &amp; FIU controlled off-peak hot water)</small>


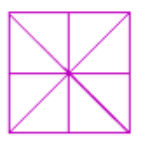
# Protection & Miscellaneous



Circle Around Letter	
DNMS	ADMS
	
<p>(Circle around letter adjacent to arrow denotes feeder continues on other page. No open point.)</p>	<p>(Circle around letter adjacent to arrow denotes feeder continues on other page. No open point.)</p>

Do Not Shed	
DNMS	ADMS
	


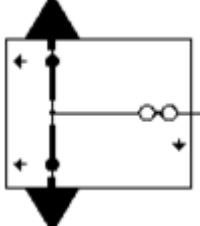
N Connected HVC	
DNMS	ADMS
	
<p>(To be shed before other customers in the event of a fault or outage)</p>	<p>(To be shed before other customers in the event of a fault or outage)</p>


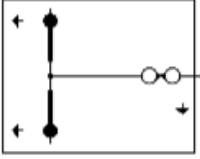
Refer to Substation Operating Manual	
DNMS	ADMS
	


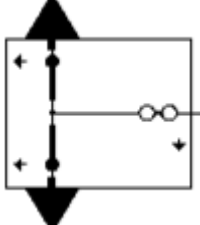
Refer to Substation Links Sheet	
DNMS	ADMS
	

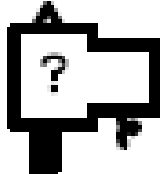
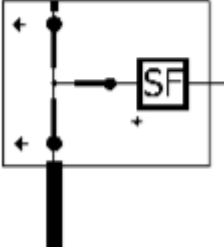
Refer to Operating Manual Notes	
DNMS	ADMS
	


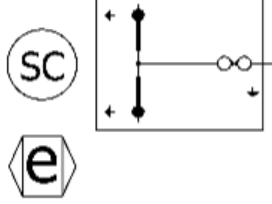
# Ring Main Unit Switches


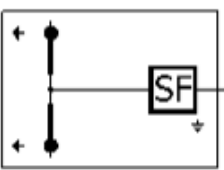
Compound Filled Feeder End Boxes	
DNMS	ADMS
	 <p>(Use SAP or WebDMD to confirm type of compound)</p>


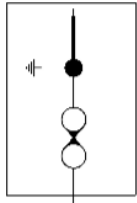
Air Insulated Feeder End Boxes	
DNMS	ADMS
	 <p>(No feeder end box symbol displayed)</p>


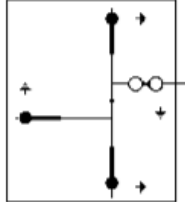
Feeder End Boxes Not Readily Accessible	
DNMS	ADMS
 <p>(Air insulated usually with heat shrink shroud)</p>	 <p>(Air insulated usually with heat shrink shroud)</p>

One Air Insulated End Box and Bus Bar Connection	
DNMS	ADMS
	

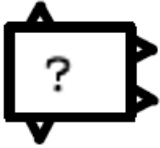
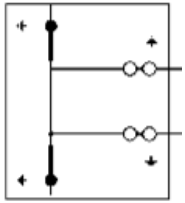
Motorised Switch Actuators (Remote Operation & Indication)	
DNMS	ADMS
	 <p>(Denoted by 'SC' and/or Remote EFI symbols)</p>


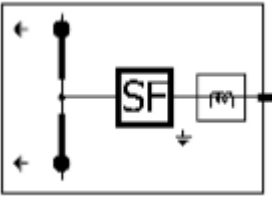
Ring Main Circuit Breaker	
DNMS	ADMS
	

Fuse Switch Unit	
DNMS	ADMS
	

4 Way Ring Main Isolator Fuse Switch	
DNMS	ADMS
	

# Ring Main Unit Switches

Ring Main Isolator Dual Fuse Switch	
DNMS	ADMS
	

Metering Unit in End Box of Tee Off	
DNMS	ADMS
	

Isolating Switch Unit	
DNMS	ADMS
