

### Technical Data Sheet

TDS\_DM-1000\_0520\_R1

#### General Product Information

Product Model Numbers Available:	DM-1000 (Standard Unit) DM-1000C (Comms Enabled Unit)
Serialised:	Yes
CE Declaration of Conformity:	Yes
Country of Manufacture:	United Kingdom
Harmonised Code:	853890999
Unit of Measure (UOM)	EACH
Individual Box Weight:	1.5 Kgs
Individual Box Size:	34cms x 17cms x 17cms
Manufacturer's Warranty:	1 Year

#### Air Circuit Breaker Compatibility

ACB Type:	Merlin Gerin Masterpact M Type ACBs Schneider Masterpact M Type ACBs Klockner Moeller IZM Type ACBs
To Replace Trip Unit Types:	STR18I / 18M / 28D / 38S / 58U (+ ST108 – ST418S) NB: Not compatible for STR68U or ST608M
Frame Size Compatibility:	M08 – M63
Current Sensor Inputs (100mA Sec):	200A – 6300A*
Breaker Fault Rating Type:	N1, H1, H2, L1
Breaker Construction Types:	Fixed Pattern or Drawout
Breaker Poles:	3 or 4
Frequency:	50 / 60 Hz
Standard:	IEC

#### Protective Function

Protective Function	Qty	Values
Protective Functions Types (Defeatable dependent upon Modelled unit selected):	7	Over Current (L), Short Time (S), Instantaneous (I), Ground Fault (G), Phase Imbalance (P), Making Current Release (MCR / DINF) and High Set Instantaneous (HSI)
Long Time Pick Up ( $I_o \times I_r$ ) Adjustment	30	0.4 – 1.0 x $I_n$
Long Time Delay ( $t_r$ ) Adjustment	6	15s – 480s (@ 1.5 x $I_r$ )
Thermal Memory Function Adjustment	2	ON / OFF
Thermal Memory Time Adjustments	9	30s – 1800s
Neutral Protection	2	100% or 50%
Short Time Pick Up ( $I_m$ ) Adjustment	8	1.5 – 10 x $I_r$
Short Time Delay ( $t_m$ ) Adjustment	8	0 – 0.4 ( $I^2 t$ OFF) & 0.1 – 0.3 ( $I^2 t$ ON)
Instantaneous (I) Pick Up Adjustment NB: INST Function is "I" & "HSI" Combined	16	1.5 – 28 x $I_n$
Ground Fault Types	2	Residual Current "T" (default) or Source Ground Return "W" (factory build)
Ground Fault Pick Up ( $I_h$ ) Adjustment	12	0.10 – 1.00 (Max 1200A)
Ground Fault Delay ( $t_h$ ) Adjustment	8	0.1 – 0.4 ( $I^2 t$ OFF) & 0.1 – 0.4 ( $I^2 t$ ON)
Phase Imbalance Pickup (P) Adjustment	7	0.25 – 0.70 x $I_r$
Phase Imbalance Delay ( $t_p$ ) Adjustment	12	1s – 90s
Making Current Release (MCR / DINF)	2	Set dependent upon ACB Characteristics

#### Local Indication and Control Features

LCD Screen	21 Character x 8 Row LCD with Backlight
Local Programming Controls	8 Buttons for Power On and Menu Operation
Programmable Settings via Menu System	Full View & Edit Menu System
Indicator LEDs	4 (ON / PRE-ALARM / OVERLOAD / TRIPPED)

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## DM-1000



Optional Functions	Qty	Values
Optional Non-Protection Functions Available:	5	ALR / FV / R / ZSI / Comms (only on DM-1000C model)
ALR – Pre Trip Alarm Contact	1 N/O	Solid State Photo Relay with contact capacity 130mA up to 240VAC Control Circuit
ALR – Pick Up Threshold		1.125 x Ir
ALR – Contact Closes On		Pickup threshold exceeded on any phase
ALR – Contact Opens On		Current falls below Pickup Threshold
ALR – External 24VDC Supply Required		Not Required
FV – Segregated Fault Trip Alarm Contact	1 N/O	Electromechanical Relay with contact capacity 5A, 240VAC / 30VDC
FV – Fault Types for Alarm Reporting	6	LTD / STD / STD / INST / GF / PI
FV – Contact Closes On		Trip caused by any of selected protection
FV – Contact Opens On		Reset of Trip Condition on Relay
FV – External 24VDC Supply Required		Yes
R – Load Monitoring Contacts	2 N/O	Solid State Photo Relay with contact capacity 130mA up to 240VAC Control Circuit
R – Ic1 Pickup Threshold Settings	8	0.80 to 1.00 x Ir
R – Ic2 Pickup Threshold Settings	8	0.50 to 0.80 x Ir
R – tr1 Delay Setting	1	60 Seconds
R – tr2 Delay Setting	1	30 Seconds
R – External 24VDC Supply Required		Not Required
ZSI – Zone Selective Interlocking Output Contact	1 N/O	Solid State Photo Relay with contact capacity 130mA up to 240VAC Control Circuit
ZSI – Output Contact Closes On		STD or GF Fault is Detected by DM-1000
ZSI – Output Contact Open On		Resets when Fault Condition Resolves
ZSI – External 24VDC Supply Required		Not Required

Modbus Communications (on DM-1000C only)	
Protocol	MODBUS RTU
Physical Network	RS-485
Wiring Type Required	Shielded Twisted Pair
Baud Rate	4800 / 9600 / 19200
Data Bits	8
Stop Bits	2
Parity	None
Default Slave ID	200
Modbus Address Map	On Request
External 24VDC Supply Required	Yes

Batteries (not used in protective functions)	
Main Battery (for LCD use only)	1 x 9V 6LR61 / PP3 Alkaline Non-Rechargeable
Coin Cell Battery (for date / time only)	1 x 3V CR2032

Additional Wiring Harnesses Required For Options	
Wiring Harness for ALR / FV / R Options	AIT DM1000-ACC-WH-OC
Wiring Harness for Comms / ZSI Options	AIT DM1000-ACC-WH-ZC
Wiring Harness for Extending Breaker Input Connectors with Wiring Guard	AIT DM1000-ACC-WH-CE

Test Equipment	
Secondary Injection Test Equipment Required	AIT DMTK