

BTS 2000 THE FAST BUS TRANSFER SYSTEM

High Speed Fast Bus Transfer System for Motor Bus :-

- Fast Transfer with less than 2 cycles of dead bus time.
- In Phase Transfer Mode - Transfer at first slip cycle phase coincidence with 2nd order Prediction Algorithm.
- Residual Voltage Transfer Mode.
- Momentary Paralleling Mode.
- Protective as well as Intelligent Automatic Transfer initiation-U/V, U/f, [df/dt } Criterion.
- ANSI C50.41 (2012) Compliant.
- Comprehensive Online Testing.
- Continuous Breaker Trip and Close Circuit Monitoring.
- Smart Breaker Failure Processing.
- Integrated System Interlocks.
- Multiple breaker scheme configurations in a single platform.
- Smart features like remote communications capability over IEC-61850-9-2, Modbus (RTU/ASCII), IEC-60870-5-103, IEC-60870-5-104.
- LCD graphical version with corresponding scheme part Single line diagram presentation/OLED Display.
- Setting flexibility by Relaytool software.
- Oscillography analysis through BSCOPE.

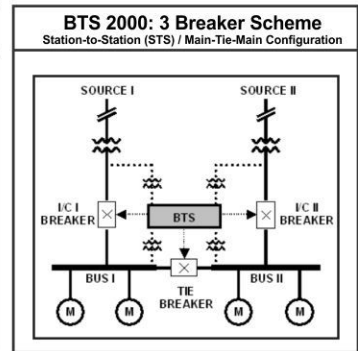
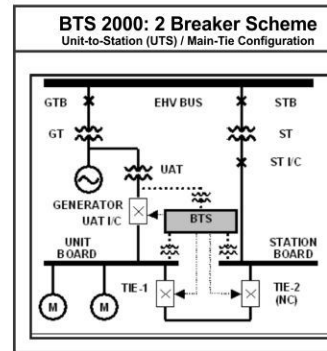
Credentials :-

- Above 30 years of rich technical expertise & experience.
- More than 500 BTS 2000 schemes installed in power plants/process industries world wide since 2000.
- Successful retrofit jobs for old power plants using existing switchgear.
- Approved by all major utilities, consultants, EPC contractors & switchgear manufacturers.
- Successful installation at major petrochemical complex.
- In house skilled design and R & D team.
- Fastest technological support at any time.
- Providing AMC for our platinum customer requirement /demand.
- Successful Installations & supply of BTS 2000 LT at various power plants.



Meeting Customer Specific Application Requirements such as - Islanded Transfer between Asynchronous Systems, Custom Logics, SCADA Integration etc.

Thermal Power | Nuclear Power | Captive Power
[Metals | Petrochemical | Mining | Water Handling]



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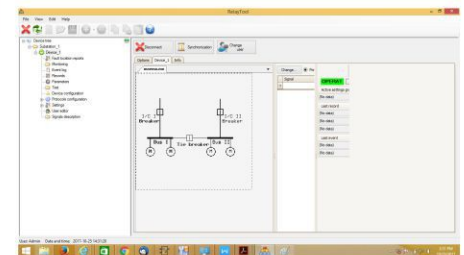
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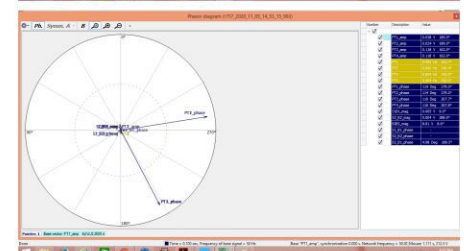
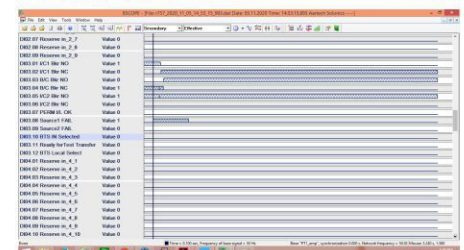
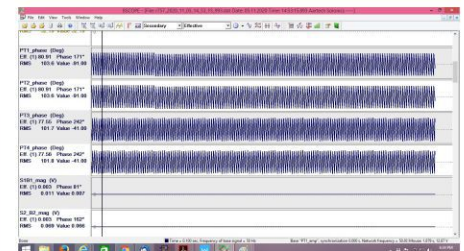
MOUNTING & WEIGHT	HORIZONTAL, FLUSH MOUNTING IN THE SWITCHGEAR CUBICLE / SIMPLEX PANEL / 19" RACK FRAME WITH A ¼ 19" RACK ADAPTER WITH AN ADDITIONAL COMPUTER INTERFACE. WEIGHT: 7KGS.	
DIMENSIONS	6U HEIGHT, ¼ 19" RACK EQUIPMENT [180.5 (W) x 265.9 (H) x 260.4 (D) mm] / ½ 19" RACK EQUIPMENT [232.5 (W) x 265.9 (H) x 260.4 (D) mm]	
TEMP. RANGE	-40 DEG C TO +55 DEG C CONTINUOUS -40 DEG C TO +70 DEG C UPTO 16 HOURS	
POWER SUPPLY	250V & 110V AC/DC +/- 20%, OTHER STANDARD VOLTAGES E.G. 48/24 V AC/DC ON REQUEST.	
VISUAL INTERFACE	16 PROGRAMMABLE LED INDICATIONS (WHICH IS EXPANDABLE ON CUSTOMER REQUEST), OLED ALPHANUMERIC VERSION WITH 6 ROWS BY 21 CHARACTERS EACH / LCD GRAPHICAL VERSION WITH CORRESPONDING SWITCHGEAR PART SINGLE LINE DIAGRAM PRESENTATION	
CONTROL INTERFACE	2 FIXED FUNCTION PUSHBUTTONS 1 BTS RESET BUTTON 4 PROGRAMMABLE HOTKEYS (OPTIONAL)	
SYSTEM INTERFACE	20 CONTACT INPUTS & 17 OUTPUTS, SEVEN 5A/1A CURRENT INPUTS, SIX 110VAC VOLTAGE INPUTS (EXPANDABLE ON CUSTOMER REQUEST), FRONT USB, RS-485(DUAL), RJ-45 PORT (DUAL)/FO PORT (DUAL) WITH PRP.	
SOFTWARE INTERFACE	GRAPHICAL USER INTERFACE BASED SCHEME IMPLEMENTATION, VIRTUAL TEST SET SIMULATION SETTINGS MODULAR SEQUENCE OF EVENT RECORDING, OSCILLOGRAPHY WITH VARIABLE SAMPLING RATE, REMOTE CONTROL	
HARDWARE STANDARDS	<p>ELECTROMAGNETIC COMPATIBILITY: IMPULSE/ DIELECTRIC WITHSTAND: IEC 60255-27:2013 ELECTROSTATIC DISCHARGE: IEC 60255-26:2013 RADIATED RADIO FREQUENCY H FIELD: IEC 60255-26:2013 SURGE WITHSTAND: IEC 60255-26:2013 CONDUCTED & RADIATED EMISSION: IEC 60255-26:2013 ELECTRIC FAST TRANSIENT: IEC 60255-26:2013 CONDUCTED DISTURBANCE TEST: IEC 60255-26:2013 DC SUPPLY INTERRUPTION & DIPS TEST: IEC 60255-26 POWER FREQUENCY H FIELD: IEC 60255-26:2013 POWER FREQUENCY VOLTAGE: IEC 60255-26:2013 AC RIPPLE ON DC SUPPLY: IEC 60255-26:2013</p> <p>COMMUNICATION PROTOCOL: IEC-61850, IEC-60870-5-103, IEC-60870-5-104</p>	<p>ENVIRONMENTAL TEST: COLD TEMPERATURE TEST: IEC 60255-1:2009 DRY HEAT TEST: IEC 60255-1:2009 CHANGE OF TEMPERATURE: IEC 60255-1:2009 DAMP HEAT STEADY STATE: IEC 60255-1:2009 CYCLIC TEMPERATURE WITH HUMIDITY: IEC 60255-1:2009</p> <p>MECHANICAL ENVIRONMENTAL TEST: VIBRATION RESPONSE & ENDURANCE : IEC 60255-1:2009 SHOCK RESPONSE & WITHSTAND TEST: IEC 60255-1:2009 BUMP & SEISMIC TEST: IEC 60255-1:</p> <p>CONTACT PERFORMANCE TEST: MECHANICAL ENDURANCE TEST: IEC 60255-1:2009 CONTACT MAKING & BREAKING CAPACITY: IEC 60255-1 SHORT TIME & CONTINUOUS CONTACT CURRENT: IEC 60255-1:2009</p>
BUS TRANSFER SCHEME FEATURES	<ul style="list-style-type: none"> ✓ MULTIPLE TRANSFER DIRECTIONS: BASED ON BREAKER CONFIGURATIONS ✓ MULTIPLE TRANSFER INITIATION: MANUAL, PROTECTIVE & AUTO INITIATION(U/V,U/F & [df/dt]BASED) ✓ TRANSFER MODES: FAST, IN-PHASE, RESIDUAL VOLTAGE/SLOW, MOMENTARY PARALLELING ✓ COMPREHENSIVE TRANSFER READINESS & BTS BLOCKING INTERLOCKS ✓ CONTINUOUS BREAKER TRIP CLOSE CIRCUIT MONITORING ✓ SMART BREAKER FAILURE PROCESSING ✓ COMPREHENSIVE ONLINE/OFFLINE TESTING MODES ✓ ANSI C50.41.2012 COMPLIANT 	
Note: Aartech reserves the right to modify technical specifications without notice.		



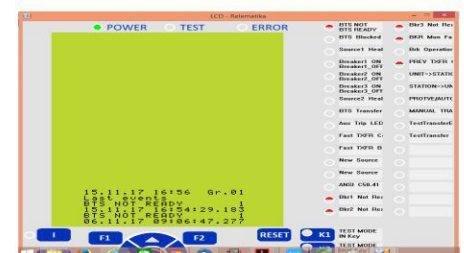
RELAY TOOL SCREENSHOTS



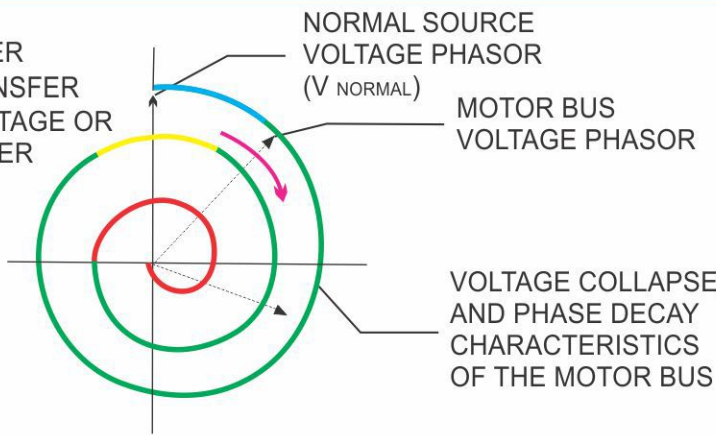
BSCOPE SCREEN SHOTS



EMULATOR



- FAST TRANSFER
- IN PHASE TRANSFER
- RESIDUAL VOLTAGE OR SLOW TRANSFER



SPIN DOWN CHARACTERISTICS OF AN OPEN CIRCUIT MOTOR BUS

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