Device Management and Fieldbus
HART® Hand-Held Configurator Device
Smart Transmitter Terminal - STT04

■ **Multifaceted Portable Communication Terminal.** Configures, calibrates, monitors & troubleshoots field devices; easy to upgrade, and can interface with a personal computer.

■ **Communication Flexibility.** Supports field devices utilizing FSK or HART® communications protocol.

■ **Easy to Connect.** Clip leads connect easily to the loop or device, independent of line polarity: frees your hands to view real-time process variables with the STT04.

■ **PC Interface Capability.** An RS-232-C port and Windows® based application software allow uploading and downloading STT04 configurations to a PC. The software also allows firmware upgrades and database management.

■ **Online Firmware Upgrades.** Download the latest STT04 firmware upgrades via the internet eliminating the need to return the unit to the factory for an upgrade.

■ **Extended Battery Life.** The rechargeable battery pack can operate for six days when fully charged.

■ **Proven and Reliable.** Portable communication terminal introduced in the instrumentation industry over a decade ago. The STT04 terminal embodies our vast experience and expertise to provide high quality and reliable service.

Smart Transmitter Terminal Series STT04

HART
FIELD COMMUNICATIONS PROTOCOL

ABB

Series STT04
Smart Transmitter Terminal

The STT04 Smart Transmitter Terminal is a battery powered, portable communication device that configures, calibrates, monitors, modifies, troubleshoots, and validates the operation of HART devices and/or Digital FSK smart devices.

The STT04 Smart Transmitter Terminal consists of an LCD display, key pad (32 keys) and an RS-232-C port for personal computer communications. The terminal comes with a clip lead cable, battery charger and an optional carrying case.

Engineering Specifications

Display Format	4 Rows, 20 Characters per row LCD
Storage Capacity	100 configurations
Keyboard Type	32 tactile feedback embossed membrane keys
Clip Leads Cable Length	1.8m (5 ft 10 in.) from STT04 terminal
PC Interface	RS-232-C serial Communications Port
Temperature Limits	Operating: -10º to +60ºC (+14º to +140ºF) Storage: -20º to +70ºC (-4º to +158ºF)
Humidity Limits	95% noncondensing
Weight	635 g (22.4 oz)
Dimensions (H x W x D)	20 x 108 x 44 mm (7.875 x 4.25 x 1.75 in.)
Case Material	Plastic, polycarbonate (Lexan® 940 or equivalent)
Batteries	AA NICd rechargeable Runtime: 6 days (approximately) Charge time: 2.8 hours

Battery Charger Used to recharge AA NICd rechargeable batteries (120 VAC, 50/60 Hz), Part No. 194580_1. Included with each STT04 Smart Transmitter Terminal

Agency Certifications Factory Mutual (FM)
Certified as nonincendive for the following categories:
Class 1; Division 2; Groups A, B, C & D

Canadian Standards Association (CSA)
Certified as intrinsically safe for the following categories:
Class 1; Division 1; Groups A, B, C & D

Operation
The STT04 terminal communicates with a field device by attaching clip leads from the terminal to the signal wires of the field device. Communication occurs over the signal wires.
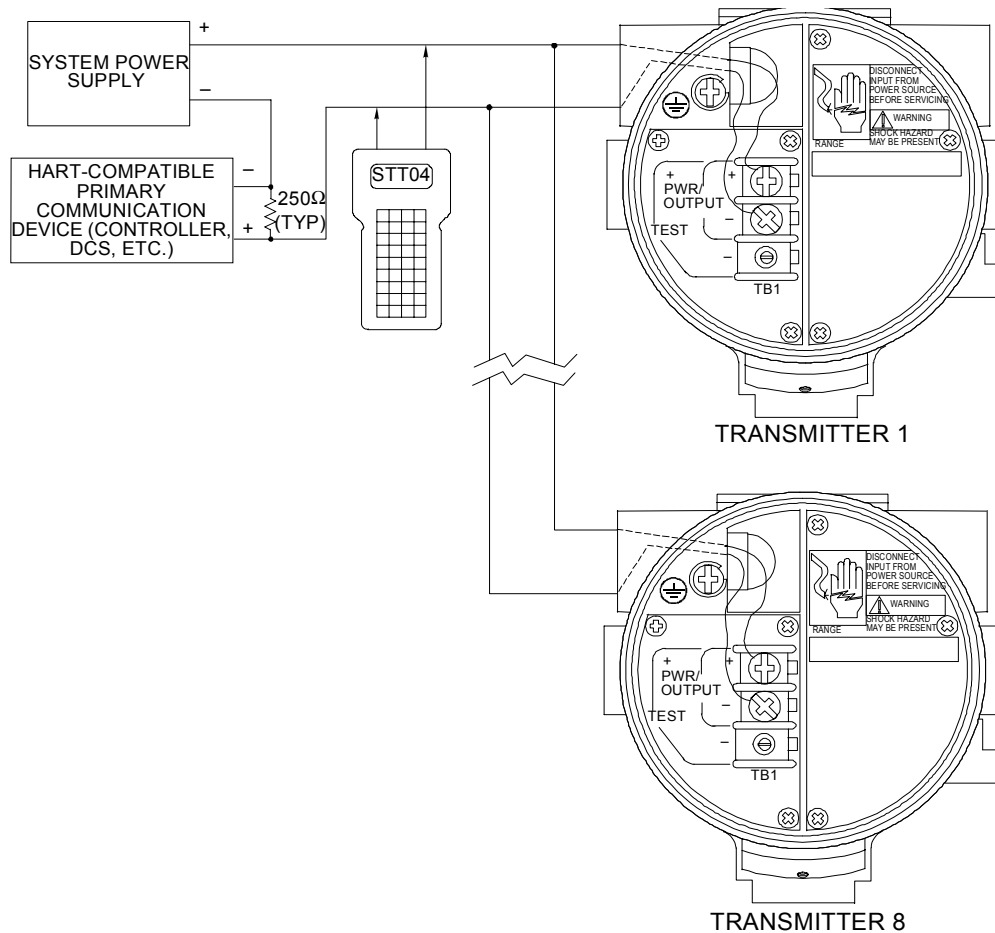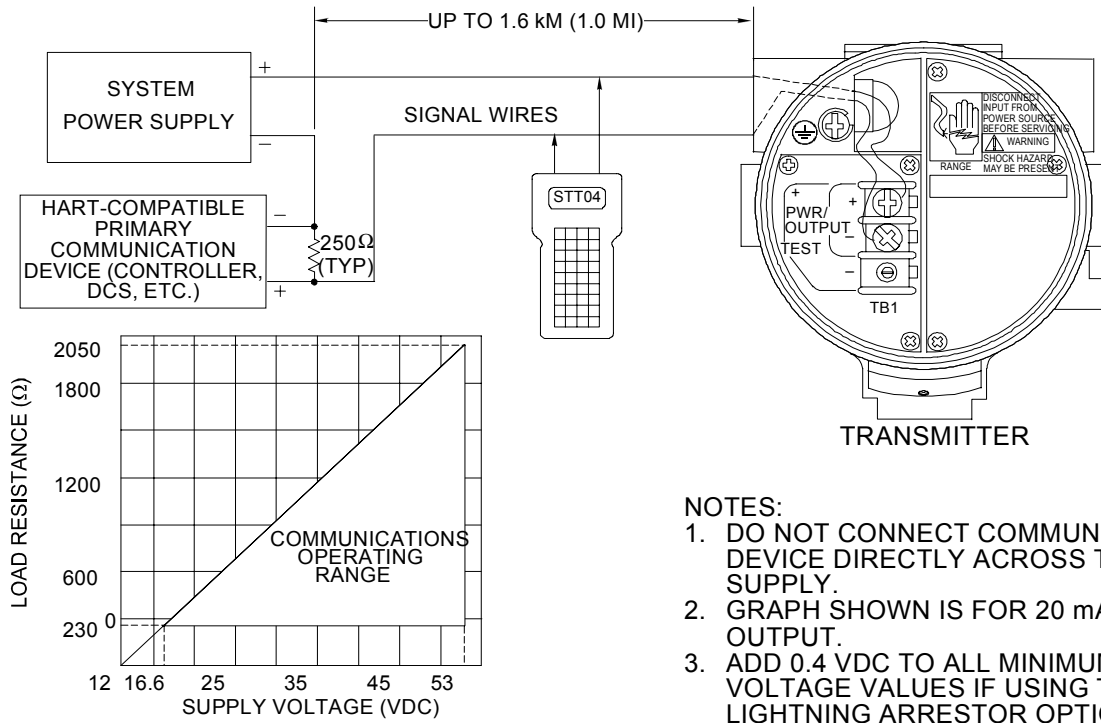
The STT04 terminal and field devices communicate by using HART communications and Digital FSK.The STT04 terminal connects to the field device anywhere there is access to the signal leads of the device. The STT04 terminal must be connected between the device and 250 ohms of impedance. The impedance is included on a system termination unit. The clip leads connect across the signal leads independent of signal direction or polarity. Refer to Figures 1 and 2.

HART
HART communication is a low speed (1,200 Baud) communication standard established by HART Communications Foundation (Specification 5.0). The communication signal is a high frequency AC waveform with a zero DC average that has no effect on the transmitter output. This communication method provides excellent noise immunity. Not available with all models. See "Ordering Information."

Digital FSK
Digital FSK is a high speed (9,600 Baud) frequency shift keying technique and is a form of frequency modulation used for digital communication. The communication signal is a high frequency AC signal with a DC average of zero. Therefore, digital communication and process variable output can occur simultaneously. The STT04 can communicate with up to eight field devices when connected to a digital field bus.

UP TO 1.6 kM (1.0 MI)

SYSTEM POWER SUPPLY

SIGNAL WIRES

HART-COMPATIBLE PRIMARY COMMUNICATION DEVICE (CONTROLLER, DCS, ETC.)

250Ω (TYP)

STT04

TRANSMITTER

LOAD RESISTANCE (Ω)

2050
1800
1200
600
230 0

COMMUNICATIONS OPERATING RANGE

12 16.6   25   35   45   53
SUPPLY VOLTAGE (VDC)

NOTES:
1. DO NOT CONNECT COMMUNICATION DEVICE DIRECTLY ACROSS THE POWER SUPPLY.
2. GRAPH SHOWN IS FOR 20 mA MAXIMUM OUTPUT.
3. ADD 0.4 VDC TO ALL MINIMUM SUPPLY VOLTAGE VALUES IF USING THE LIGHTNING ARRESTOR OPTION.

SYSTEM POWER SUPPLY

HART-COMPATIBLE PRIMARY COMMUNICATION DEVICE (CONTROLLER, DCS, ETC.)

250Ω (TYP)

STT04

TRANSMITTER 1

TRANSMITTER 8

Ordering Information			Model Code	S T T		4						
				01 - 03	04	05	06	07	08	09	10	11
Base Model												
Smart Transmitter Terminal				S T T								
Option												
Terminal Only					0							
Terminal with Soft Carrying Case					1							
Design Level												
Revision						4						
Keypad Insert												
English (Only Supports Bailey-FSK Devices)							E	F	S	K		
French (Supports HART and Bailey-FSK Devices)							F	A	L	L		
Spanish (Supports HART and Bailey-FSK Devices)							S	A	L	L		
Battery Charger												
110 Volt AC Charger											B	0
220 Volt AC Charger											B	1
Instruction Manual *(one copy is supplied with order at no charge)*				694A177U01								

Smart Transmitter Terminal Parts and Accessories

Description	Part Number
Downlink software kit (includes CD, Instructions and cable.)	STT04-DL03
DB9 Cable, MxF, 6 ft. (1.82 m)	3KXD311800L0013
STT04 Carrying Case	1990071A1
Cable (STT04 to transmitter with alligator clips)	1948517B4
110 Volt AC Charger	1949616A1
220 Volt AC Charger	164A076U01
Battery Assembly	1949646A1

Devices supported with software version 2.2:
HART Devices:
Pressure Transmitters - 2600T - 264, 265, 268, 267 and 269; 600TEN, 600T, 2000T, AS800
and PTH
Temperature Transmitters - TH02/TH202, TS11/TS01, RBTH, TEU211, 658T, 653S
Valve Positioners - TZID-C, TZID/AZH
Magnetic Flowmeters - 50XE4000, 50XM2000, 50SM1000
Liquid Analyzers - 82PH, 82EC, 82TE, 82TC
Bailey-FSK devices
Pressure Transmitters - PTS and BCN
Temperature Transmitters - EQS, EQN
Valve Positioners - AVS
Magnetic Flowmeters - XE/XM/SM
Liquid Analyzers - TBN480, TBN580, TBN581

Standard Product =

![ABB logo]

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