

MFC 4150 / 4150X HART® Communicator



**MFC 4150 General Purpose
CE**

MFC 4150X Intrinsically Safe

ATEX, _cUL_{us}



**Competitive Comparison
vs. Rosemount 375**



a Scott Fetzer company

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MFC Competitive Comparison

Key comparisons: Meriam MFC versus the Rosemount 375

Comparison Item	Meriam MFC 4150 / X	Rosemount 375
Availability (“On” to HART communication)	15 seconds (typical)	1 minute 20 seconds (typical)
Battery life	60 hrs (6 ea AA alkaline) 27 hrs with back light on	2 - 4 hours per rechargeable pack
Std Config Memory	200 Configurations	25 Configurations
Dimensions	10.375” (L) x 4.125” (W) x 1.875” (D); wt = 1.7 lbs	10” (L) x 5¾” (W) x 2¼ (D), 2 lbs 4 ozs
Ergonomics	Comfortably handheld	Larger handheld
Review feature	Includes Edit capability	Review only; no edit
Alpha character entry	Full alpha key pad	Coded alpha entry or touch screen w/stylus

MFC Competitive Comparison



Rosemount
375



Meriam
MFC 4150

MFC Competitive Comparison



MFC 4150 / 4150X is the best value in HART communicators available.

- Significant Price Advantage
- Superior Performance
- Ergonomics and Features provide superior usability
- Faster availability makes users more efficient and productive
- Responsive factory support

MFC Competitive Comparison

MFC Advantages...

- Faster availability: “On” to HART communication in 15 seconds
- 60 hours of battery life from 6 AA alkaline batteries
- Review / Edit mode
- Full alphanumeric key pad
- Dedicated text editing keys
- Thumb keys (left hand) for menu Up, Down, and Select
- Quick Menu access key
- 13 line display
- Off / medium / bright back light



MFC Competitive Comparison

Comparing...	375H Field Communicator	MFC 4150 HART® Communicator
Software Features		
HART Device Support	✓	✓
Foundation Fieldbus Device Support	✓	
Field upgrade of firmware / software	✓	✓
Field upgrade of Device Descriptions	✓	✓
Operating System	Win CE 3.0	Dedicated
Start-up Time (typical)	1 min 20 sec	15 sec
HART Loop Diagnostics	✓	
Capture record script data	✓	✓
Intelligent text entry		✓

- The 375's Win CE 3.0 operating system is needed for Foundation Fieldbus support, not for HART. HART users suffer for it – higher price and almost 1 minute to launch CE operating system plus another 20 seconds to launch HART application!

MFC Competitive Comparison

Comparing...	375H Field Communicator	MFC 4150 HART® Communicator
Hardware Features		
Keypad supports full alphanumeric		✓
Thumb keys for one-handed operation		✓
Custom fit, use-in-place soft case		✓
Slip on protective rubber boot		✓

- MFC 4150 / 4150X offers the only complete alphanumeric keypad
- MFC thumb keys (left side) offer one-handed menu navigation
- Custom fit, use in place soft case stores spare batteries and test leads

MFC Competitive Comparison

Comparing...	375H Field Communicator	MFC 4150 HART® Communicator
Hardware Features – Speed / Memory / Communications		
Processor	SH3 @ 80 MHz (Win CE Overhead)	HC12 @ 8MHz
Application Memory, dedicated	32 MB	256 KB
Flash Memory	32 MB (shared w/ DDs, configs, event)	16 MB (dedicated to DOFs)
Expansion Memory	128 MB optional	NA
Standard Configuration Memory	25 (shared)	200 (dedicated)
External Communications	IrDA port	Serial

MFC Competitive Comparison

Comparing...	375H Field Communicator	MFC 4150 HART [®] Communicator
Screen		
Height	2.3 inch	2.6 inch
Width	3.0 inch	2.6 inch
Diagonal	3.8 inch	3.7 inch
Area	6.9 sq. inch	6.8 sq. inch
Resolution	14 x 40 character	13 x 21 character
Touch Screen	✓	
Graphics capable	✓ (1/4 VGA)	✓
Backlit display	✓	✓

MFC Competitive Comparison

Comparing...	375H Field Communicator	MFC 4150 HART® Communicator
Battery / Power		
Battery life	8 hrs (literature) 2 – 4 hrs typical	Alkaline (req'd for I.S. units): 60 hrs w/o back light 27 hrs w/ back light
Battery charge period	1 – 2 hrs	4 – 6 hrs (external when NiMH used with general purpose units)
Alkaline batteries	No	✓ req'd for I.S. service
Intelligent power indicator	✓	✓
Exchange batt in hazardous area	✓	No

- Field feedback on 375 battery → significantly less than 8 hours operation per re-charge; reports of 1 to 2 hours per re-charge are common
- MFC uses alkaline or NiMH batteries for general purpose areas. Use only alkaline batteries for hazardous areas. NiMH batteries recharge in separate, external charger.

MFC Competitive Comparison

Comparing...	375H Field Communicator	MFC 4150 HART® Communicator
Approvals / Certifications		
UL		cUL_{us}
FM	✓	
CSA	✓	cUL
CE	✓	✓
CENELEC	✓	
ATEX	✓	✓
FISCO	✓	

- ATEX replaced CENELEC requirement in Europe as of June 30, 2003

MFC Competitive Comparison

Comparing...	375H Field Communicator	MFC 4150 HART® Communicator
Configuration Management Software Compatibility		
AMS 6.1 or earlier (Emerson)	N/A	N/A
AMS 6.2 (Emerson)	✓	N/A
DMS 3.xx (Meriam)	N/A	✓

- HART configurations are not recognized by competing manufacturers
- No common interface specification exists, and none is expected to be developed

MFC Competitive Comparison

MFC 4150X ATEX Intrinsically Safe



II 1 G; Ex ia IIC T4

Intrinsically Safe, Exia

Class I, Div. 1 Groups A, B, C, D

$-5^{\circ}\text{C} < T_a < +50^{\circ}\text{C}$

cUL_{us} Listed

ATEX Instrument Category 1:
Continuous presence of potentially
explosive atmosphere

375 ATEX

Intrinsically Safe



II 2 G (1GD)

EEx ia IIC T4

($T_{amb} = -10^{\circ}\text{C}$ to $+50^{\circ}\text{C}$)

MFC Competitive Comparison

Available DOFs (DOFs are Meriam's equivalent to DDs):



- MFC 4150 / 4150X communicates with all HART devices at the Universal and Common Practice Command levels
- MFC 4150 / 4150X currently supports the 410 most commonly installed HART devices at the Device Specific Command level (approximately 1000 HART DDs are available)
- Check the “Available DOFs” list at www.meriam.com/customers/past.asp to confirm Device Specific coverage of needed devices