

Sensor Object Classes for
Temposonics Position Sensors, R-Series



Device Net

Statement of Conformance

Technical Specification

Fill in the blank or ⊗ the appropriate box										
General Device Data	Conforms to Device Net Specification			Volume I - Release 2.0			Volume II - Release 2.0			
	Vendor Name			MTS Systems Corp.						
	Device Profile Name			Generic Device						
	Product Name			MTST3						
	Product Catalog Number			2						
Product Revision			1002							
DeviceNet Physical Conformance Data	Network Power Consumption (Max)						0.3 A @ 11V dc (worst case)			
	Connector Style			Open Hardwired		<input type="checkbox"/>	Sealed-Mini		<input type="checkbox"/>	
				Open-Pluggable		<input type="checkbox"/>	Sealed-Micro		<input checked="" type="checkbox"/>	
	Isolated Physical Layer			Yes		<input type="checkbox"/>				
				No		<input checked="" type="checkbox"/>				
	LEDs Supported			Module		<input type="checkbox"/>	Combo Mod/Net I/O		<input type="checkbox"/>	
	None			<input checked="" type="checkbox"/>		<input type="checkbox"/>			<input type="checkbox"/>	
	MAC ID Setting			DIP Switch		<input type="checkbox"/>	Software Settable		<input checked="" type="checkbox"/>	
				Other		<input type="checkbox"/>				
	Default MAC ID					<input type="checkbox"/>	63			
Communication Rate Setting			DIP Switch		<input type="checkbox"/>	Software Settable		<input checked="" type="checkbox"/>		
			Other		<input type="checkbox"/>					
Communication Rates Supported			125k bit/s		<input checked="" type="checkbox"/>	500k bit/s		<input checked="" type="checkbox"/>		
			250k bit/s		<input checked="" type="checkbox"/>					
DeviceNet Communication Data	Device Network Behavior			Group 2 Client		<input type="checkbox"/>	Group 2 Only Client		<input type="checkbox"/>	
	Check All That Apply			Group 2 Server		<input type="checkbox"/>	Group2 Only Server		<input checked="" type="checkbox"/>	
				Peer-To-Peer		<input type="checkbox"/>	Tool (not a Device)		<input type="checkbox"/>	
	UCMM Explicit Message Groups Supported			Group 1		<input type="checkbox"/>	Group 2		<input type="checkbox"/>	
	Dynamic I/O Message Groups (Peer to Peer)			Group 1		<input type="checkbox"/>	Group 2		<input type="checkbox"/>	
	Default I/O Data Address Path			Input: Class		<input type="checkbox"/>	Inst.		<input type="checkbox"/>	
			Output: Class		<input type="checkbox"/>	Inst.		<input type="checkbox"/>		
Fragmented Explicit Messaging Supported			Yes		<input type="checkbox"/>	No		<input checked="" type="checkbox"/>		
If yes, Acknowledge TimeOut					ms					
Typical Target Addresses										
Consumption			Service		Class	Inst.		Attr.		
Production			Service		Class	Inst.		Attr.		

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Device Net

Statement of Conformance

Identity Object 0x01

	Object Class		ID	Description	Get	Set	Value Limits
DeviceNet Required Object Implementation	Attributes	Open	1	Revision	<input type="checkbox"/>	<input type="checkbox"/>	
			2	Max instance	<input type="checkbox"/>	<input type="checkbox"/>	
			3	Number of Instances	<input type="checkbox"/>	<input type="checkbox"/>	
			4	Optional attributes list	<input type="checkbox"/>	<input type="checkbox"/>	
			5	Optional services list	<input type="checkbox"/>	<input type="checkbox"/>	
			6	Max Id of class attributes	<input type="checkbox"/>	<input type="checkbox"/>	
			7	Max ID of instance attributes	<input type="checkbox"/>	<input type="checkbox"/>	
		<input checked="" type="checkbox"/> None Supported					

	DeviceNet Services	Parameter Options
Services	<input type="checkbox"/> Get_Attributes_All	
	<input type="checkbox"/> Reset	
<input checked="" type="checkbox"/> None Supported	<input type="checkbox"/> Get_Attribute_Single	
	<input type="checkbox"/> Find_Next_Object_instance	

	Object instance		ID	Description	Get	Set	Value Limits
	Attributes	Open	1	Vendor	<input checked="" type="checkbox"/>	<input type="checkbox"/>	= (116)
			2	Device type	<input checked="" type="checkbox"/>	<input type="checkbox"/>	= (0)
			3	Product code	<input checked="" type="checkbox"/>	<input type="checkbox"/>	= (2)
			4	Revision	<input checked="" type="checkbox"/>	<input type="checkbox"/>	= (1.002)
			5	Status (bits supported)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
			6	Serial number	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
			7	Product name	<input checked="" type="checkbox"/>	<input type="checkbox"/>	MTST3
			8	State	<input type="checkbox"/>	<input type="checkbox"/>	
			9	Config. Consistent Value	<input type="checkbox"/>	<input type="checkbox"/>	
			10	Heartbeat Interval	<input type="checkbox"/>	<input type="checkbox"/>	

	DeviceNet Services	Parameter Options
Services	<input type="checkbox"/> Get_Attributes_All	
	<input checked="" type="checkbox"/> Reset	
	<input checked="" type="checkbox"/> Get_Attribute_Single	
	<input type="checkbox"/> Set_Attribute_Single	

Vendor Specific Actions	If yes, fill out the Vendor Specific Additions form on page F-7.	<input type="checkbox"/> Yes
		<input checked="" type="checkbox"/> No

<input checked="" type="checkbox"/> Get to indicate that attribute value is returned by the use of Get_Attribute_Single service
<input checked="" type="checkbox"/> Set to indicate that attribute value is written by the use of Set_Attribut_Single serv

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Device Net

Statement of Conformance

DeviceNet
Required
Object
Implementation

Message Router Object 0x02

Object Class	ID	Description	Get	Set	Value Limits
Attributes Open	1	Revision	<input type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/> None Supported	4	Optional attribute list	<input type="checkbox"/>	<input type="checkbox"/>	
	5	Optional service list	<input type="checkbox"/>	<input type="checkbox"/>	
	6	Max ID of class attributes	<input type="checkbox"/>	<input type="checkbox"/>	
	7	Max ID of instance attributes	<input type="checkbox"/>	<input type="checkbox"/>	

DeviceNet Services

Parameter Options

Services

☒ None Supported
☐ Get_Attributes_All
☐ Get_Attribute_Single

Object Instance

ID	Description	Get	Set	Value Limits
Attributes Open	1	Object list	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/> None Supported	2	Maximum connections supported	<input type="checkbox"/>	<input type="checkbox"/>
	3	Number of active connections	<input type="checkbox"/>	<input type="checkbox"/>
	4	Active connection list	<input type="checkbox"/>	<input type="checkbox"/>

DeviceNet Services

Parameter Options

Services

☐ Get_Attributes_All
☐ Get_Attribute_Single

Vendor Specific Additions

If yes, fill out the Vendor Specific Additions from on pate F-7

Yes

☐

No

☒

☒ Get to indicate that attribute value is returned by the use of Get_Attribute_Single service

☒ Set to indicate that attribute value is written to by use the use of Set_Attribute_Single service

Sensor Object Classes for
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Device Net

Statement of Conformance

DeviceNet Object 0x03									
DeviceNet Required Object Implementation	Object Class		ID	Description	Get	Set	Value Limits		
	Attributes	Open	1	Revision	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
	<input type="checkbox"/> None Supported								
DeviceNet Services									
Services						Parameter Options			
<input type="checkbox"/> None Supported		<input checked="" type="checkbox"/>		Get_Attribute_Single					
Object Instance									
Object Instance		ID	Description	Get	Set	Value Limits			
Attributes		Open	1	MAC ID	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
<input type="checkbox"/> None Supported			2	Baud rate	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
			3	BOI	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
			4	Bus-off counter	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			
			5	Allocation information	<input checked="" type="checkbox"/>	<input type="checkbox"/>			
			6	MAC ID switch changed	<input type="checkbox"/>	<input type="checkbox"/>			
			7	Baud rate switch changed	<input type="checkbox"/>	<input type="checkbox"/>			
			8	MAC ID switch value	<input type="checkbox"/>	<input type="checkbox"/>			
			9	Baud rate switch value	<input type="checkbox"/>	<input type="checkbox"/>			
DeviceNet Services									
Services						Parameter Options			
<input type="checkbox"/> None Supported		<input checked="" type="checkbox"/>	Get_Attribute_Single						
		<input checked="" type="checkbox"/>	Set_Attribute_Single						
		<input checked="" type="checkbox"/>	Allocate M/S connection set						
		<input checked="" type="checkbox"/>	Release M/S connection set						
Vendor Specific Additions									
If yes, fill out the Vendor Specific Additions from on pate F-7				Yes	<input type="checkbox"/>				
				No	<input checked="" type="checkbox"/>				
<input checked="" type="checkbox"/> Get to indicate that attribute value is returned by the use of Get_Attribute_Single service									
<input checked="" type="checkbox"/> Set to indicate that attribute value is written to by use the use of Set_Attribute_Single service									

Sensor Object Classes for
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Device Net

Statement of Conformance

DeviceNet Required Object Implementation		Assembly Object 0x04						
		Object Class	ID	Description	Get	Set	Value Limits	
		Attributes	Open	1 Revision 2 Max instance	<div><div></div><div></div></div>	<div><div></div><div></div></div>		
		<div><input checked="" type="checkbox"/> None Supported</div>						
		DeviceNet Services					Parameter Options	
		Services						
		<div><div><input checked="" type="checkbox"/> None Supported</div><div><div><input type="checkbox"/> Create <input type="checkbox"/> Delete <input type="checkbox"/> Get_Attribute_Single</div></div></div>						
		Object Instance	Instance Type		Instance Id(s)			
		The Object Instance section must be completed for each instance type implemented	Static Input		<div><div>X</div></div>	1		
			Static Output		<div><div></div></div>			
			Static I/O		<div><div></div></div>			
			Static Configuration		<div><div></div></div>			
			Dynamic		<div><div></div></div>			
				ID	Description	Get	Set	Value Limits
		Attributes	Open	1 Number of members in list 2 Member list 3 Data	<div><div></div><div></div><div>X</div></div>	<div><div></div><div></div><div></div></div>		
		<div><input type="checkbox"/> None Supported</div>						
		DeviceNet Services					Parameter Options	
		Services						
		<div><div><input type="checkbox"/> None Supported</div><div><div><input type="checkbox"/> Delete <input checked="" type="checkbox"/> Get_Attribute_Single <input type="checkbox"/> Set_Attribute_Single <input type="checkbox"/> Get_Member <input type="checkbox"/> Insert_Member <input type="checkbox"/> Remove_Member</div></div></div>						
		Vendor Specific Additions	If yes, fill out the Vendor Specific Additions from on pate F-7			Yes	<div><div></div></div>	
						No	<div><div>X</div></div>	
		<div><div><input checked="" type="checkbox"/> Get to indicate that attribute value is returned by the use of Get_Attribute_Single service</div><div><input checked="" type="checkbox"/> Set to indicate that attribute value is written to by use the use of Set_Attribute_Single service</div></div>						

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Device Net

Statement of Conformance

Connection Object 0x05										
DeviceNet Required Object Implementation	Object Class	ID	Description	Get	Set	Value Limits				
	Attributes	Open	1	Revision	<input type="checkbox"/>	<input type="checkbox"/>				
	<input checked="" type="checkbox"/> None Supported									
DeviceNet Services										
Services										
<input checked="" type="checkbox"/> None Supported										
DeviceNet Services										
Parameter Options										
Reset										
Create										
Delete										
Get_Attribute_Single										
Find_Next_Object_Instance										
Object Instance										
Predefined M/S Connections										
Peer to Peer Connections										
Max Instances										
Complete the Object Instance section for each Instance type supported. Indicate Production trigger, Transport type and Transport Class supported for Dynamic I/O										
Explicit Message										
Polled										
Bit Strobed										
Change of State										
Cyclic										
Production trigger(s)										
Transport type(s)										
Transport class(es)										
Cyclic										
COS										
App. trig.										
Client										
3										
X										
ID										
Description										
Get										
Set										
Value Limits										
Attributes										
Open										
1										
State										
2										
Instance type										
3										
Transport Class trigger										
4										
Produced connection ID										
5										
Consumed connection ID										
6										
Initial comm. characteristics										
7										
Produced connection size										
8										
Consumed connection size										
9										
Expected packet rate										
12										
Watchdog time-out action										
13										
Produced connection path length										
14										
Produced connection path										
15										
Consumed connection path length										
16										
Consumed connection path										
17										
Production inhibit time										
DeviceNet Services										
Parameter Options										
Services										
Reset										
Delete										
Apply_Attributes										
Get_Attribute_Single										
Set_Attribute_Single										
Vendor Specific Additions										
If yes, fill out the Vendor Specific Additions from on pate F-7										
Yes										
No										
X										
X										
Get to indicate that attribute value is returned by the use of Get_Attribute_Single service										
X										
Set to indicate that attribute value is written to by use the use of Set_Attribute_Single service										
X										

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Device Net

Statement of Conformance

Connection Object 0x05

DeviceNet Required Object Implementation	Object Class	ID	Description	Get	Set	Value Limits
	Attributes	Open	1 Revision	<input type="checkbox"/>	<input type="checkbox"/>	
	<input checked="" type="checkbox"/> None Supported					

DeviceNet Services

Parameter Options

Services

☒ None Supported

- ☐ Reset
- ☐ Create
- ☐ Delete
- ☐ Get_Attribute_Single
- ☐ Find_Next_Object_Instance

Object Instance

Predefined M/S Connections

Peer to Peer Connections

Max Instances

Complete the Object Instance section for each Instance type supported. Indicate Production trigger, Transport type and Transport Class supported for Dynamic I/O

- Explicit Message
- Polled
- Bit Strobed
- Change of State
- Cylic

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- Explicit Message
- Dynamic I/O
- Server
- Server

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Total Client
Total Client

- Production trigger(s)
- Transport type(s)
- Transport class(es)

☐
☒
☐

Cyclic Server

COS ☐

2 ☒

App. trig. Client
3

ID Description

Get

Set

Value Limits

Attributes

Open

- 1 State
- 2 Instance type
- 3 Transport Class trigger
- 4 Produced connection ID
- 5 Consumed connection ID
- 6 Initial comm. characteristics
- 7 Produced connection size
- 8 Consumed connection size
- 9 Expected packet rate
- 12 Watchdog time-out action
- 13 Produced connection path length
- 14 Produced connection path
- 15 Consumed connection path length
- 16 Consumed connection path
- 17 Production inhibit time

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DeviceNet Services

Parameter Options

Services

- ☒ Reset
- ☐ Delete
- ☐ Apply_Attributes
- ☒ Get_Attribute_Single
- ☒ Set_Attribute_Single

Vendor Specific Additions

If yes, fill out the Vendor Specific Additions from on pate F-7

Yes ☐
No ☒

- ☒ Get to indicate that attribute value is returned by the use of Get_Attribute_Single service
- ☒ Set to indicate that attribute value is written to by use the use of Set_Attribute_Single service

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Statement of Conformance

Connection Object 0x05

DeviceNet Required Object Implementation	Object Class	ID	Description	Get	Set	Value Limits
	Attributes	Open	1 Revision	<input type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	None Supported					

Services	DeviceNet Services	Parameter Options
<input checked="" type="checkbox"/>	<input type="checkbox"/> Reset <input type="checkbox"/> Create <input type="checkbox"/> Delete <input type="checkbox"/> Get_Attribute_Single <input type="checkbox"/> Find_Next_Object_Instance	
<input checked="" type="checkbox"/>	None Supported	

Object Instance	Predefined M/S Connections	Peer to Peer Connections	Max Instances			
Complete the Object Instance section for each Instance type supported. Indicate Production trigger, Transport type and Transport Class supported for Dynamic I/O	Explicit Message	<input type="checkbox"/>	Explicit Message	<input type="checkbox"/>	Total	
	Polled	<input checked="" type="checkbox"/>	Server		Client	
	Bit Strobed	<input type="checkbox"/>	Dynamic I/O		Total	
	Change of State	<input type="checkbox"/>		<input type="checkbox"/>	Client	
	Cyclic	<input type="checkbox"/>	Server			
	Production trigger(s)	<input type="checkbox"/>	Cyclic	COS	<input type="checkbox"/>	App. trig.
	Transport type(s)	<input checked="" type="checkbox"/>	Server			Client
	Transport class(es)	<input type="checkbox"/>		2	<input checked="" type="checkbox"/>	3

		ID	Description	Get	Set	Value Limits
Attributes	Open	1	State	X		
		2	Instance type	X		
		3	Transport Class trigger	X		
		4	Produced connection ID	X		
		5	Consumed connection ID	X		
		6	Initial comm. characteristics	X		
		7	Produced connection size	X		
		8	Consumed connection size	X		
		9	Expected packet rate	X	X	
		12	Watchdog time-out action	X		
		13	Produced connection path length	X		
		14	Produced connection path	X		
		15	Consumed connection path length	X		
		16	Consumed connection path	X		
		17	Production inhibit time			

Services	DeviceNet Services	Parameter Options
	<input checked="" type="checkbox"/> Reset <input type="checkbox"/> Delete <input type="checkbox"/> Apply_Attributes <input checked="" type="checkbox"/> Get_Attribute_Single <input checked="" type="checkbox"/> Set_Attribute_Single	

Vendor Specific Additions

If yes, fill out the Vendor Specific Additions from on pate F-7

Yes ☐

No ☒

- ☒ Get to indicate that attribute value is returned by the use of Get_Attribute_Single service
- ☒ Set to indicate that attribute value is written to by use the use of Set_Attribute_Single service