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Interface Control (0x7F,0x02)

Description	Reassign data protocols, both incoming and outgoing.
Notes	Responds over the port that sent the command with an ACK/NACK immediately after the operation is complete. user's responsibility to not send any critical information or commands while awaiting a response! Doing so while command processes may cause those packets to be dropped. Constraints: - Limited parsers and data streams are available. Refer to your device manual for more information. Main port always has a MIP parser and MIP data stream bound. Additionally, Main is the only port that can proce interface control commands. If response is NACK, no change was made. Here's what can cause a NACK: - The requested protocol isn't supp this device, or on this port, or this device doesn't support that many parsers. - The request would break the gener constraints listed above, or a device-specific constraint.

Parameter Name	Data Type	Description
Field Length	*u8*	*12*
Descriptor	*u8*	*0x02*
Function Selector	u8	This command supports the following MIP function selectors: `Write Read Save Load Default [WRSLD]`
Port `[WRSLD]`	u8 enum	Which physical interface is being selected (USB, serial, etc)

Name	Value	Description
ALL	0	
MAIN	1	An alias that directs to Main USB if it's connected, or Main UART otherwise
UART_1	17	Depending on your device, this may mean either the first UART *currently configured*, first port on which UART *can be configured*. Refer to your device manual.
UART_2	18	
UART_3	19	
USB_1	33	The first virtual serial port over USB (ie. COM5)
USB_2	34	The second virtual serial port over USB (ie. COM6), only available on GNSS/INS devi Recommended for NMEA/RTCM.
Protocols Incoming `[W]`	u32 bitfield	Input protocol(s) the port will accept. If the protocol supports ACK/NACK or detailed responses, it will be over this port even if no corresponding output protocol is set.

Name	Bit(s)	Description
MIP	0	Microstrain Inertial Protocol
NMEA	8	
RTCM	9	
SPARTN	24	
		Data protocol(s) the port will output

Protocols Outgoing [W]	u32 bitfield	Name	Bit(s)	Description
		MIP	0	Microstrain Inertial Protocol
		NMEA	8	
		RTCM	9	
		SPARTN	24	

Ack/Nack Reply	**See standard MIP ack/nack reply format.**

Response Data	Data Type	Description
Response Length	*u8*	*11*
Response Descriptor	*u8*	*0x82*

Port	u8 enum	Which physical interface is being selected (USB, serial, etc)

Name	Value	Description
ALL	0	
MAIN	1	An alias that directs to Main USB if it's connected, or Main UART otherwise
UART_1	17	Depending on your device, this may mean either the first UART *currently configured*, first port on which UART *can be configured*. Refer to your device manual.
UART_2	18	
UART_3	19	
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Protocols Outgoing	u32 bitfield	Data protocol(s) the port will output

Name	Bit(s)	Description
MIP	0	Microstrain Inertial Protocol
NMEA	8	
RTCM	9	
SPARTN	24	

Comm Mode (0x7F,0x10)

Description	Advanced specialized communication modes.
Notes	This command allows the user to communicate directly with various subsystems which may be present in MIP devices (i.e. IMU, GNSS, etc.) Please see the specific device's user manual for possible modes. This command responds with an ACK/NACK just prior to switching to the new protocol. For all functions except 0x01 (use new settings), the new communications mode value is ignored.

Parameter Name	Data Type	Description
Field Length	*u8*	*4*
Descriptor	*u8*	*0x10*
Function Selector	u8	This command supports the following MIP function selectors: `Write Read Default [WRD]`
Mode [W]	u8	
Ack/Nack Reply	**See standard MIP ack/nack reply format.**	

Response Data	Data Type	Description
Response Length	*u8*	*3*
Response Descriptor	*u8*	*0x90*
Mode	u8	