

Addendum to CiA/DS-205-1 „CAL LMT Service Specification“

(Power Management Layer Configuration Services)
CiA Draft Standard 205-1A

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Addendum to CAL LMT Service Specification

1 Scope.

This document contains additions to the existing Layer Management Service Specification CiA DS-205-1. The additions cover new LMT configuration services to support a non-trivial CAN Session Layer which defines a Standby Capability.

2 References.

- /1/ CiA DS-205-1 V1.1, „LMT Service Specifications“, February 1996.
- /2/ CiA DS-205-2 V1.1, „LMT Protocol Specifications“ , February 1996.
- /3/ CiA DS-150 V1.1, „CAN Power Management Layer Specification“, CiA Working Draft Standard, May 1997.
- /4/ CiA DS-205-2A V1.3, „Addendum to CiA/DS-205-2 CAL LMT Protocol Specification“, CiA Draft Standard, May 1997.

3 General Description.

3.1 LMT Perspective.

With the help of the additional session layer control services, LMT offers the possibility to change the configuration of the CAN Power Management Layer, which defines a Standby Capability under which power reduction capabilities of CAN hardware are supported and reliable communication is ensured.

3.2 LMT Objects and Attributes.

No additional objects.

3.2.1 LMT Master Object.

No additional attributes.

3.2.2 LMT Slave Object.

There is additional an LMT Node class:

Class 3: All LMT Service according to Class 2 plus Session Layer Configuration services.

3.3 LMT Modes and Services.

No additions.

3.4 LMT Service Description.

No additions.

4 Switch Mode Services.

No additions.

5 Configuration Services.

The following configuration services are added and are available only in configuration mode:

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5.1 Configure Standby Support

This service is used to enable the Standby Support for all LMT Slave nodes in the network, which are in the configuration mode (see /3/).

Parameter	Request/Indication
Argument Standby Support enable disable	Mandatory mandatory selection selection

This service is unconfirmed and mandatory for LMT Nodes with Class 3. When Standby Support is disabled (which is the default) the Session Layer behaves in a trivial manner (see /3/).

5.2 Configure Hardware Sleep Support

This service is used to enable the Hardware Sleep Support for all LMT Slave nodes in the network, which are in the configuration mode (see /1/). When Hardware Sleep Support is disabled (which is the default), the Session Layer Service Element is able to receive messages even being not only in the ACTIVE state (see /3/).

Parameter	Request/Indication
Argument Hardware Sleep Support enable disable	Mandatory mandatory selection selection

This service is unconfirmed and mandatory for LMT Slave nodes with Class 3.

5.3 Configure Session Layer Timing Parameters

This service is used to configure the Minimal Active Time, Pre-Idle Time, Latency Time and Pending Time for Session Layer Service Element of the LMT Slave node. The service allows only one LMT Slave in configuration mode (see /1/). The service has to be followed by an Activate Session Layer Timing Parameters service to activate the configured parameters.

Parameter	Request/Indication	Response/Confirmation
Argument minimal active time value pre-idle time value latency time pending time	Mandatory mandatory	
Remote Result success failure reason		Mandatory selection selection optional

This service is confirmed and mandatory for LMT nodes with Class 3.

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5.4 Activate Session Layer Timing Parameters

Through the Activate Session Layer Timing Parameters service the LMT Master activates the session layer timing parameters as defined by the Configure Session Layer Timing Parameters service.

Parameter	Request/Indication	Response/Confirmation
Argument switch_delay	Mandatory mandatory	

This service is unconfirmed and mandatory for LMT nodes with Class 3.

Note:

The same note, as for Activate Bit Timing service (see note to the paragraph 5.3 in /1/).

6 Inquire Services.

No additions.