

Logs (Tab)

The cpm library provides a [logging functionality](#) that includes writing to stdout, to a log file and to a RTI DDS DataWriter. The logs sent via the latter over the network are listened to by the LCC and shown in the Logs UI. (The LCC only show the newest ~10000 logs to keep the UI responsive).

Log structure

The log messages include a unique identifier of the sender (*ID*), the content of the log message (*Content*) and the point in time when the log message was created (*At time*). They appear in a table in the middle of the logs view.

Manual Control Parameters Timer **Logs**

All

Log messages

ID	Content	At time
vehicle_raspberry_8	Vehicle Controller Tracking Errors:lo	1568115038225717501
vehicle_raspberry_4	Vehicle Controller Tracking Errors:lo	1568115039425670524
vehicle_raspberry_6	Vehicle Controller Tracking Errors:lo	1568115040744530755
vehicle_raspberry_5	Vehicle Controller Tracking Errors:lo	1568115041949255556
vehicle_raspberry_7	Vehicle Controller Tracking Errors:lo	1568115043467010015
vehicle_raspberry_3	Vehicle Controller Tracking Errors:lo	1568115054048176379
vehicle_raspberry_1	Vehicle Controller Tracking Errors:lo	1568115055236135467
vehicle_raspberry_2	Vehicle Controller Tracking Errors:lo	1568115056663164493
vehicle_raspberry_8	Vehicle Controller Tracking Errors:lo	1568115057898117590
vehicle_raspberry_4	Vehicle Controller Tracking Errors:lo	1568115059257341420
vehicle_raspberry_6	Vehicle Controller Tracking Errors:lo	1568115060466753072
vehicle_raspberry_5	Vehicle Controller Tracking Errors:lo	1568115061858257801
vehicle_raspberry_7	Vehicle Controller Tracking Errors:lo	1568115063111390697

Autoscroll

The *Autoscroll* check button can be used to toggle automatic scrolling to the newest log entry on or off. The newest log entry is always at the bottom of the list. Entries are sorted w.r.t. their timestamp.

If the content of a cell is not fully visible, the user can change the width of each column using the mouse (by dragging the vertical lines between each of the cells at the head of the table). If that is not sufficient, the user can also hover over the region of interest - the full text then appears below the pointer.

Filtering Logs

The screenshot shows two views of the 'Logs' interface. The left view shows the 'filter column' set to 'All' and the 'filter string' empty. The right view shows the 'filter column' set to 'Timestamp' and the 'filter string' empty. Both views show a table of log messages with columns 'ID', 'Content', and 'At time'. The 'Autoscroll' checkbox is checked in the left view and unchecked in the right view.

Log messages table (Left View):

ID	Content	At time
log messages appear in this scrollable list		

Log messages table (Right View):

ID	Content	At time
vehicle_raspberry_8	Vehicle Controller Trac	
vehicle_raspberry_4	Vehicle Controller Trac	
vehicle_raspberry_6	Vehicle Controller Trac	
vehicle_raspberry_5	Vehicle Controller Trac	
vehicle_raspberry_7	Vehicle Controller Trac	
vehicle_raspberry_3	Vehicle Controller Trac	
vehicle_raspberry_1	Vehicle Controller Trac	
vehicle_raspberry_2	Vehicle Controller Trac	
vehicle_raspberry_8	Vehicle Controller Tracking Errors:long,n	
vehicle_raspberry_8	long,max: 0.033614 lat,mean: 0.004125	
vehicle_raspberry_4	Vehicle Controller Trac	
vehicle_raspberry_6	Vehicle Controller Trac	
vehicle_raspberry_5	Vehicle Controller Trac	
vehicle_raspberry_7	Vehicle Controller Trac	

The logs can be filtered using a regex search. The search can either be performed over all columns or only in one of them - this can be selected using the *filter column* combo box. The regex search string can be put in the *filter string* search entry. The table below either shows the result of the applied filter, or all logs if no filter is applied (if the search entry is empty).

Warning: A filter is only applied to all messages that have been received up to that point in time. New logs are received in the background, but are not added to the result of the search unless the search string is changed (which starts a new search).

The screenshot shows the 'Logs' interface with the 'filter column' set to 'Timestamp' and the 'filter string' set to '156811506'. The table below shows the filtered results.

Log messages table (Filtered View):

ID	Content	At time
vehicle_raspberry_6	Vehicle Controller Tracking Errors:lo	1568115060466753072
vehicle_raspberry_5	Vehicle Controller Tracking Errors:lo	1568115061858257801
vehicle_raspberry_7	Vehicle Controller Tracking Errors:lo	1568115063111390697

Setting a Log Level

Autoscroll

Current log level:

In the Logs tab, you can also set a log level for the domain of the cpm library DomainParticipant (the *dds_domain* you started the LCC with).

This log level is used to set the *verbosity of the participants* when logging information.

Log level	Description
0	Do not log anything (e.g. for performance reasons)
1 (default)	Only log critical failures
2	Also log less relevant error messages
3	Also log any other message of lesser relevance

For each logged message, the log level can be set programmatically (in C++, using the cpm library). The message is only logged if its own log level is higher than or equal to the system-wide log level.