Connectivity

Patient monitoring plus EHR/EMR/PDMS

To meet the ever-growing demand for data transferability in the hospital environment, Hamilton Medical ventilators offer a serial RS-232 interface and several protocols for connection to patient monitoring systems, electronic health records (EHR), electronic medical record systems (EMR), and patient data management systems (PDMS).

This document describes connectivity options for the most common EHR/EMR/PDMS systems. The following tables are based on input obtained from the field. We recommend using them for informational purposes only. Hamilton Medical has tested the protocol interfaces to ensure that the specified values are exported successfully.

⚠ Verify that the integration of the ventilator with a patient monitor, patient data management system (PDMS), computer, or similar, has been performed correctly.

Note that the information in this document may be changed or updated without notice. For further details, contact your Hamilton Medical sales representative.

HAMILTON MEDICAL

Patient monitoring systems

HAMILTON-G5	HAMILTON-S1	HAMILTON-C1	HAMILTON-T1	HAMILTON-C2	HAMILTON-C3	HAMILTON-C6	HAMILTON-HF90	Manufacturer	System	Protocol
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	Dräger	Infinity	Polling / Block
o	o	o	o	o	o	o	o	GE Healthcare	Datex-Ohmeda	N/A
(✓)	(✓)	(✓)	(✓)	o	o	o	o	Masimo	Patient SafetyNet System and Iris Gateway System	Block
o	o	o	o	o	o	o	o	Maquet	Octanet	Polling
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	Mindray	BeneVision	Polling / Block
x	x	x	x	x	x	x	o	Nihon Kohden	BSM-4100K (v01-30 or later)	Polling
x	x	x	x	x	x	x	o	Nihon Kohden	BSM-5100K (v01-30 or later)	Polling
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	Nihon Kohden	BSM-9101K (v12-06 or later)	Polling
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	Nihon Kohden	BSM-6000K (v02-10 or later)	Polling
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	Philips	IntelliVue (IntelliBridge)	VueLink Open
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	Philips	IntelliVue (VueLink)	VueLink Open
o	o	o	o	o	o	o	o	Schiller	ARGUS	Polling
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	Spacelabs Healthcare	Ultraview	Polling

(✓) External device is able to read data from Hamilton Medical device depending on the software version.
The accuracy of the displayed monitoring data is not validated by Hamilton Medical.
x External device is not able to read data / no drivers have been developed.
o Contact the monitoring system manufacturer for the current status.

EHR/EMR/PDMS

HAMILTON-S1	HAMILTON-G5	HAMILTON-C1	HAMILTON-T1	HAMILTON-C2	HAMILTON-C3	HAMILTON-C6	HAMILTON-HF90	Manufacturer	System	Protocol
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	AGFA	ORBIS	Polling / Block
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	Ascom	Digistat Suite	Polling / Block
(✓)	(✓)	o	o	o	o	o	o	B-Simple	B-ICU.Care	Polling / Block
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	Cerner	CareAware	Polling / Block
(✓)	(✓)	o	o	o	o	o	o	Chipsoft	CS-ECIS (Electronic Care Information System)	Polling
(✓)	(✓)	o	o	o	o	o	o	Clinicomp	Essentris	Block
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	HIM	QCare	Polling
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	Copra System	Copra	Polling
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	Dräger	Integrated Care Manager (ICM)	Polling / Block
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	GE Healthcare	Centricity Critical Care	Polling / Block
(✓)	(✓)	o	o	o	o	o	o	GE Healthcare	Unity Network ID	Polling
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	iMDsoft	MetaVision	Polling / Block
o	o	(✓)	(✓)	(✓)	(✓)	(✓)	o	IMESO	ICUData	Polling
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	LOWTeq	LOWTeq-PDMS intensive care	Polling
(✓)	(✓)	o	o	o	o	o	o	McKesson	Horizon Clinicals DAS	Polling
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	NantHealth	DeviceConX	Block
(✓)	(✓)	o	o	(✓)	o	o	o	Philips	ICCA (former ICIP Release D.03[1])	Polling
(✓)	(✓)	o	o	o	o	o	o	PICIS	Picis Critical Care Manager	Polling
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	Precept Health	ICU Care	Polling / Block

(✓)   External device is able to read data from Hamilton Medical device depending on the software version. The accuracy of the displayed monitoring data is not validated by Hamilton Medical.

o   Contact the monitoring system manufacturer for the current status.

[1]   With service pack 1 or higher.

Connectivity solutions middleware

HAMILTON-S1	HAMILTON-G5	HAMILTON-C1	HAMILTON-T1	HAMILTON-C2	HAMILTON-C3	HAMILTON-C6	HAMILTON-HF90	Manufacturer	System	Protocol
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	Ascom	Digistat Suite	Polling / Block
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	Bridge-Tech Medical	Device Connectivity Solution (DCS)	Polling / Block
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	Capsule Technologie	Device Driver Interface Library	Polling / Block
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	Cardiopulmonary Corp.	Bernoulli Enterprise	Block
o	o	o	o	o	o	o	o	CareTrends	careTrends software platform	N/A
o	o	o	o	o	o	o	o	Extension Healthcare	Extension Engage	N/A
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	MedKom	MCare	Polling / Block
(✓)	(✓)	o	o	o	o	o	o	NANTHEALTH iSirona	DeviceConX	Polling
o	o	o	o	o	o	o	o	Nuvon	Nuvon Gateway	N/A
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	Philips	IntelliBridge	VueLink Open

(✓)   External device is able to read data from Hamilton Medical device depending on the software version.
      The accuracy of the displayed monitoring data is not validated by Hamilton Medical.
o   Contact the monitoring system manufacturer for the current status.

Connectivity between EHR/EMR/PDMS and middleware

EHR/EMR/PDMS system	Middleware					
	Bridge-Tech Medical	Capsule Technologie	Cardiopulmonary Corp.	CareTrends	NANTHEALTH iSirona	Nuvon
Allscripts	o	o	o	o	(✔)	o
CPSI	(✔✔)	o	o	o	o	(✔)
Ecare NEBO	o	o	o	o	o	o
Eclypsis (Allscripts)	(✔✔)	o	o	(✔)	o	(✔)
Epic	(✔✔)	(✔✔)	o	(✔)	(✔)	(✔)
HMS Ambulatory Care	(✔✔)	o	o	o	(✔)	o
McKesson	(✔✔)	(✔✔)	o	(✔)	o	(✔)
MEDITECH	(✔✔)	(✔✔)	o	(✔)	(✔)	(✔)
Medsphere Open Vista	o	o	o	o	o	o
Orion	o	o	o	o	o	o
Siemens Sorion	(✔✔)	(✔✔)	o	o	(✔)	(✔)

(✔✔) Connectivity between EHR/EMR and middleware, as well as between middleware and Hamilton Medical device.
See the table Connectivity solutions middleware on the previous page.

(✔) EHR/EMR should be able to communicate with middleware. The accuracy of this information is not validated by Hamilton Medical.

o Contact the middleware manufacturer for the current status.

Other systems

HAMILTON-S1	HAMILTON-G5	HAMILTON-C1	HAMILTON-T1	HAMILTON-C2	HAMILTON-C3	HAMILTON-C6	HAMILTON-HF90	Manufacturer	System	Protocol
(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	(✓)	o	Mallinckrodt Pharmaceuticals	INOmax DSIR	Polling
(✓)	(✓)	(✓)	(✓)	o	(✓)	(✓)	o	EKU	NO-A, EZ-KINOX, CARDINO	Block

(✓)   External device is able to read data from Hamilton Medical device depending on the software version.
      The accuracy of the displayed monitoring data is not validated by Hamilton Medical.
o   Contact the monitoring system manufacturer for the current status.

Distributed alarm systems

HAMILTON-S1	HAMILTON-G5	HAMILTON-C1	HAMILTON-T1	HAMILTON-C2	HAMILTON-C3	HAMILTON-C6	HAMILTON-HF90	Manufacturer	System	Protocol
(✓)	(✓)	x	x	x	x	(✓)	x	Ascom	Digistat Suite	Block

(✓)   External device is able to read data from Hamilton Medical device depending on the software version.
      The accuracy of the displayed monitoring data is not validated by Hamilton Medical.
x   Not available.