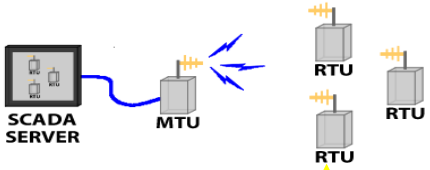
INFINITY™

INFINITY RTU

The Infinity RTU is a stand-alone, PLC-based pump station controller for water and wastewater applications. It is sophisticated and SCADA-ready with virtually unlimited user-configurable control options available in a standardized, affordable package.

Infinity RTU Features

- SCADA ready, expandable PLC-based system
- Runs as a stand-alone pump controller, or as part of a SCADA system when an Infinity MTU is used
- Graphical user interface shows station status, pump status, alarm logs, and pump operational data such as run times and starts
- 84 different, user-assignable discrete input functions, all with alarm capability
- 147 different, user-assignable discrete output functions
- 24 different, user-configurable analog input functions for control or data logging; analog inputs may also be set to alarm on high and/or low readings
- Super flexible pump alternation control, allows all possibilities for up to 4 pumps – you define the exact pump sequence and the maximum number of pumps to run at any one time



RTU
The Infinity Remote Terminal Unit (RTU) is a controller for local station operations, as well as a data gatherer for a complete SCADA system. Data is polled from the MTU and displayed on a SCADA server. While it is part of the SCADA system, it functions autonomously at the station.

Infinity RTU
Common Applications

- **Sewer lift station control**
- **Water pump station control**
- **Well pump control**
- **Water flow and quality monitoring**
- **Reservoir monitoring**
- **Security monitoring at remote sites**
- **Weather, rain, and temperature monitoring**

Hardware and software capabilities are easily expanded in the future because standard off-the-shelf industrial components are used.

Industry standard PLC with 2 communication ports, user expandable by means of snap-in place I/O and communication cards. PLC runs BCI 'PCS 400' software.

Controls up to 4 pumps per RTU. A configurable PID function allows for exact Variable Frequency Drive (VFD) control of pumps whether maintaining level, pressure, or flow rate.

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BCI BOREAL CONTROLS INC. JUNEAU, ALASKA

Number	Input w/ Alarm	Number	Input w/ Alarm	Number	Output Function	Number	Output Function	Number	Output Function
1	P1 HAND	43	DISCRETE LVL 5	1	P1 RUN	51	ALARM GROUP 14	101	ANALOG 10 HIGH
2	P1 AUTO	44	DISCRETE LVL 6	2	P2 RUN	52	ALARM GROUP 15	102	ANALOG 11 HIGH
3	P1 RUNNING	45	DISCRETE LVL 7	3	ALARM LIGHT	53	ALARM GROUP 16	103	ANALOG 12 HIGH
4	P1 OVERLOAD	46	DISCRETE LVL 8	4	ALARM HORN	54	USER1 ALARM	104	ANALOG 13 HIGH
5	P1 SEAL FAIL	47	DISCRETE LVL 9	5	HIGH LEVEL	55	USER2 ALARM	105	ANALOG 14 HIGH
6	P1 OVERTEMP	48	DISCRETE LVL 10	6	LOW LEVEL	56	OP TRBL ALARM	106	ANALOG 15 HIGH
7	P1 CHECKVALVE	49	LEVEL SENSOR TBL	7	HIGH LEVEL FLOAT	57	P1 NOFLOW	107	ANALOG 16 HIGH
8	P1 FLOW SWITCH	50	FLOW SENSOR TBL	8	LOW LEVEL FLOAT	58	P2 NOFLOW	108	ANALOG 17 HIGH
9	P1 FAULT	51	LEVEL 2 SELECTED	9	P1 RUNNING LT	59	P1 FAULT	109	ANALOG 18 HIGH
10	P2 HAND	52	USER INPUT 1	10	P2 RUNNING LT	60	P2 FAULT	110	ANALOG 19 HIGH
11	P2 AUTO	53	USER INPUT 2	11	P1 FAIL	61	ATS NOT NORMAL	111	ANALOG 20 HIGH
12	P2 RUNNING	54	FLOWPULSE 1	12	P2 FAIL	62	POWER FAIL	112	ANALOG 1 LOW
13	P2 OVERLOAD	55	P3 HAND	13	P1 OVERLOAD	63	INTRUSION	113	ANALOG 2 LOW
14	P2 SEAL FAIL	56	P3 AUTO	14	P2 OVERLOAD	64	BATT CHGR FAIL	114	ANALOG 3 LOW
15	P2 OVERTEMP	57	P3 OVERLOAD	15	P1 OVERTEMP	65	P3 RUN	115	ANALOG 4 LOW
16	P2 CHECKVALVE	58	P3 SEAL FAIL	16	P2 OVERTEMP	66	P3 RUNNING LT	116	ANALOG 5 LOW
17	P2 FLOW SWITCH	59	P3 OVERTEMP	17	P1 SEAL FAIL	67	P3 FAIL	117	ANALOG 6 LOW
18	P2 FAULT	60	P3 CHECKVALVE	18	P2 SEAL FAIL	68	P3 OVERLOAD	118	ANALOG 7 LOW
19	HIGH ALARM FLOAT	61	P3 FLOW SWITCH	19	P1 FAIL TO START	69	P3 OVERTEMP	119	ANALOG 8 LOW
20	LOW ALARM FLOAT	62	P3 FAULT	20	P2 FAIL TO START	70	P3 SEAL FAIL	120	ANALOG 9 LOW
21	PUMP OFF FLOAT	63	P3 RUNNING	21	P1 EXCESS RUN	71	P3 FAIL TO START	121	ANALOG 10 LOW
22	LEAD FLOAT	64	P4 HAND	22	P2 EXCESS RUN	72	P3 EXCESS RUN	122	ANALOG 11 LOW
23	LAG FLOAT	65	P4 AUTO	23	P1 CHECKVALVE	73	P3 CHECKVALVE	123	ANALOG 12 LOW
24	HIGH SUMP 1 FLOAT	66	P4 OVERLOAD	24	P2 CHECKVALVE	74	P3 STANDBY	124	ANALOG 13 LOW
25	HIGH SUMP 2 FLOAT	67	P4 SEALFAIL	25	P1 STANDBY	75	P3 NO FLOW	125	ANALOG 14 LOW
26	BATTERY CHGR FAIL	68	P4 OVERTEMP	26	P2 STANDBY	76	P3 FAULT	126	ANALOG 15 LOW
27	PB ACKNOWLEDGE	69	P4 CHECKVALVE	27	PLC FAULT	77	MIX VALVE 3	127	ANALOG 16 LOW
28	PB RESET	70	P4 FLOW SWITCH	28	GENERATOR TBL	78	PLC BATTERY ALARM	128	ANALOG 17 LOW
29	PB OPERATOR TBL	71	P4 FAULT	29	FIRE ALARM	79	P4 RUN	129	ANALOG 18 LOW
30	POWER FAIL	72	P4 RUNNING	30	SUMP 1 ALARM	80	P4 RUNNING LT	130	ANALOG 19 LOW
31	GENERATOR RUNNING	73	LAG2 FLOAT	31	SUMP 2 ALARM	81	P4 FAIL	131	ANALOG 20 LOW
32	GENERATOR TBL	74	LAG3 FLOAT	32	FLOW SENSOR TBL	82	P4 OVERLOAD	132	Panel AL Light
33	ATS IN NORMAL	75	P1 READY TO RUN	33	STATION LOW TEMP	83	P4 OVERTEMP	133	P1 Starts/Hr Exceeded
34	VOLT/PHASE RELAY	76	P2 READY TO RUN	34	VOLT/PHASE ALARM	84	P4 SEAL FAIL	134	P2 Starts/Hr Exceeded
35	INTRUSION	77	P3 READY TO RUN	35	LEVEL SENSOR TBL	85	P4 FAIL TO START	135	P3 Starts/Hr Exceeded
36	FIRE	78	P4 READY TO RUN	36	MIX VALVE 1	86	P4 EXCESS RUN	136	P4 Starts/Hr Exceeded
37	LOW TEMPERATURE	79	REMOTE LOCKOUT	37	MIX VALVE 2	87	P4 CHECKVALVE	137	P1 Bypass
38	RAIN TIP BUCKET	80	USER INPUT 3	38	ALARM GROUP 1	88	P4 STANDBY	138	P2 Bypass
39	DISCRETE LVL 1	81	USER INPUT 4	39	ALARM GROUP 2	89	P4 NO FLOW	139	P3 Bypass
40	DISCRETE LVL 2	82	FLOWPULSE 2	40	ALARM GROUP 3	90	P4 FAULT	140	P4 Bypass
41	DISCRETE LVL 3	83	FLOWPULSE 3	41	ALARM GROUP 4	91	MIX VALVE 4	141	P1 READY TO RUN
42	DISCRETE LVL 4	84	FLOWPULSE 4	42	ALARM GROUP 5	92	ANALOG 1 HIGH	142	P2 READY TO RUN
				43	ALARM GROUP 6	93	ANALOG 2 HIGH	143	P3 READY TO RUN
				44	ALARM GROUP 7	94	ANALOG 3 HIGH	144	P4 READY TO RUN
				45	ALARM GROUP 8	95	ANALOG 4 HIGH	145	REMOTE LOCKOUT
				46	ALARM GROUP 9	96	ANALOG 5 HIGH	146	USER3 ALARM
				47	ALARM GROUP 10	97	ANALOG 6 HIGH	147	USER4 ALARM
				48	ALARM GROUP 11	98	ANALOG 7 HIGH		
				49	ALARM GROUP 12	99	ANALOG 8 HIGH		
				50	ALARM GROUP 13	100	ANALOG 9 HIGH		

- **More Infinity RTU Features**
- Battery backed PLC, radio, and controls allow full SCADA operation through AC power outages
- Premium individually replaceable industrial off-the-shelf components such as socketed relays and 30mm switches
- Hardwired high-level-float based redundant pump controls are standard. If a high level occurs, pumps will always be called to run. Redundant controls are enabled when H-O-A is in 'Auto' mode.
- Individual circuit breakers are used for each element of the control circuit – this results in a system with maximum reliability, easy troubleshooting, and eliminates the need for spare fuses
- Accommodates all types of analog or discrete type level or pressure sensing devices for primary pump control. Accepts mA, voltage, or pulse inputs for data logging and monitoring.
- Available in indoor (NEMA 4) or outdoor (NEMA 4X) configurations
- Available with controls for 1, 2, 3 or 4 pumps, or for monitoring only (w/o pump controls)
- Includes security system with multiple level user access (logs individual user activity at RTU)
- Sewer lift station flow monitoring (calculated flowrate based on well volume), system also accepts flowmeter analog and pulse inputs
- RTU may be safely installed and commissioned by an experienced electrician working with an experienced operator
- Intrinsically safe circuits for sensors in classified areas
- Controls Pumps via starters, soft starters or VFDs
- UL 508A listed control panel, made in USA

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