

Annex to the Getting Started with Altivar Process ATV600



Short-Circuit Current Ratings (SCCR) and Branch Circuit Protection

The combinations in the table below have been tested per UL61800-5-1 or UL508C. (Reference UL file E116875). These ratings allow proper coordination of short circuit protection. The product would exceed a 100 kA interrupt rating on the output.

Altivar Process drives are provided with integral overload and over-speed monitoring and can provide motor overload protection at 100% of the full load motor current. The motor thermal current [Motor Th Current] , L H must be set to the rated current indicated on the motor nameplate. (For more information refer to the [Altivar Process programming manual EAV64318](#)).

The opening of the branch circuit protective device may be an indication that a fault current has been interrupted.

⚠ ⚠ DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Current-carrying parts and other components of the controller should be examined and replaced if damaged.
- If burnout of the current element of an overload relay occurs, the complete overload relay must be replaced.

Failure to follow these instructions will result in death or serious injury.

75°C (167°F) copper conductor with the AWG wire size shown on nameplate for all sizes.

Suitable for use on a circuit capable of delivering not more than X rms symmetrical kiloAmperes, Y Volts maximum, when protected by Z1 with a maximum rating of Z2 .

Altivar Process Short Circuit Current Ratings (a) (b) With Enclosure				Minimum Enclosure Volume		With Circuit Breaker		With GV●P				Fuses		Line Reactor Min Value (o)	
Input Voltage 50/60 Hz (Y)	Power Ratings in Normal Duty		Catalog Number			PowerPact Catalog Number (Z1, Z2)	SCCR (X)	GV2P/3P (Z1, Z2)	GV●P		SCCR (X)	600 V Class J (d) (Z1, Z2)	SCCR (X)		
	(kW)	(HP)						Type E (e)	Voltage Rating	Power (i)					
				(L)	(in ³)		(kA)	–	(V)	(HP)	(kA)	(A)	(kA)	(mH)	(A)
240 Vac Three-phase Evaluated for UL508C	0.75	1	ATV630U07M3	47	2880	H●L36015	100	GV2P08	240	1	65	6	100	–	–
	1.5	2	ATV630U15M3	47	2880	H●L36015	100	GV2P10	240	1.5	65	10	100	–	–
	2.2	3	ATV630U22M3	47	2880	H●L36025	100	GV2P14	240	3	65	15	100	–	–
	3	–	ATV630U30M3	47	2880	H●L36030	100	GV3P13 (f)	240	4	65	20	100	–	–
	4	5	ATV630U40M3	47	2880	H●L36030	100	GV3P18 (f)	240	5	65	25	100	–	–
	5.5	7.5	ATV630U55M3	47	2880	H●L36050	100	GV3P25 (f)	240	7.5	65	35	100	–	–
	7.5	10	ATV630U75M3	56	3390	H●L36060	100	GV3P32	240	10	65	45	100	–	–
	11	15	ATV630D11M3	56	3390	H●L36070	100	GV3P40	240	15	65	60	100	–	–
	15	20	ATV630D15M3	115	7010	H●L36090	100	GV3P65	240	20	65	80	100	–	–
	18.5	25	ATV630D18M3	115	7010	H●L36110	100	–	–	–	–	100	100	–	–
	22	30	ATV630D22M3	115	7010	H●L36125	100	–	–	–	–	100	100	–	–
	30	40	ATV630D30M3	132	8040	H●L36175	100	–	–	–	–	175	100	–	–
	37	50	ATV630D37M3	132	8040	J●L36225	100	–	–	–	–	200	100	–	–
	45	60	ATV630D45M3	132	8040	J●L36250	100	–	–	–	–	200	100	–	–
	55	75	ATV630D55M3	478	29160	L●L36400	100	–	–	–	–	350	100	–	–
	75	100	ATV630D75M3	478	29160	L●L36600	100	–	–	–	–	450	100	–	–
480 Vac Three-phase Evaluated for UL508C	0.75	1	ATV630U07N4 ATV650U07N4	47	2880	H●L36015	100	GV2P07	480Y/277	1	65	3	100	–	–
	1.5	2	ATV630U15N4 ATV650U15N4	47	2880	H●L36015	100	GV2P08	480Y/277	2	65	6	100	–	–
	2.2	3	ATV630U22N4 ATV650U22N4	47	2880	H●L36015	100	GV2P08	480Y/277	2	65	10	100	–	–
	3	–	ATV630U30N4 ATV650U30N4	47	2880	H●L36015	100	GV2P10	480Y/277	3	65	10	100	–	–
	4	5	ATV630U40N4 ATV650U40N4	47	2880	H●L36015	100	GV2P10	480Y/277	3	65	15	100	–	–
	5.5	7.5	ATV630U55N4 ATV650U55N4	47	2880	H●L36025	100	GV3P13 (f)	480Y/277	7.5	65	15	100	–	–
	7.5	10	ATV630U75N4 ATV650U75N4	47	2880	H●L36030	100	GV3P13 (f)	480Y/277	7.5	65	20	100	–	–
	11	15	ATV630D11N4 ATV650D11N4	47	2880	H●L36050	100	GV3P25 (f)	480Y/277	15	65	30	100	–	–
	15	20	ATV630D15N4 ATV650D15N4	56	3390	H●L36060	100	GV3P32	480Y/277	20	65	40	100	–	–
	18.5	25	ATV630D18N4 ATV650D18N4	56	3390	H●L36070	100	GV3P32	480Y/277	20	65	50	100	–	–

Altivar Process Short Circuit Current Ratings (a) (b) With Enclosure				Minimum Enclosure Volume		With Circuit Breaker		With GV●P				Fuses		Line Reactor Min Value (o)	
Input Voltage 50/60 Hz (Y)	Power Ratings in Normal Duty		Catalog Number			PowerPact (c) Catalog Number (Z1, Z2)	SCCR (X)	GV2P/3P (Z1, Z2)	GV●P		SCCR (X)	600 V Class J (d) (Z1, Z2)	SCCR (X)		
								Type E (e)	Voltage Rating	Power (i)					
	(kW)	(HP)		(L)	(in ³)		(kA)	–	(V)	(HP)	(kA)	(A)	(kA)	(mH)	(A)
480 Vac Three-phase Evaluated for UL508C	22	30	ATV630D22N4 ATV650D22N4	56	3390	H●L36080	100	GV3P40	480Y/277	20	65	60	100	–	–
	30	40	ATV630D30N4 ATV650D30N4	115	7010	H●L36100	100	GV3P65	480Y/277	40	65	80	100	–	–
	37	50	ATV630D37N4 ATV650D37N4	115	7010	H●L36125	100	–	–	–	–	90	100	–	–
	45	60	ATV630D45N4 ATV650D45N4	115	7010	H●L36150	100	–	–	–	–	100	100	–	–
	55	75	ATV630D55N4 ATV650D55N4	132	8040	J●L36175	100	–	–	–	–	150	100	–	–
	75	100	ATV630D75N4 ATV650D75N4	132	8040	J●L36200	100	–	–	–	–	200	100	–	–
	90	125	ATV630D90N4 ATV650D90N4	132	8040	J●L36250	100	–	–	–	–	200	100	–	–
	110	150	ATV630C11N4	478	29160	L●L36400	100	–	–	–	–	300	100	–	–
	132	200	ATV630C13N4	478	29160	L●L36600	100	–	–	–	–	400	100	–	–
	160	250	ATV630C16N4	478	29160	L●L36600	100	–	–	–	–	500	100	–	–
	220	350	ATV630C22N4 ATV630C22N4MN	878	53550	–	–	–	–	–	–	500 (g)	100	0.05	400
	250	400	ATV630C25N4 ATV630C25N4MN	878	53550	–	–	–	–	–	–	600 (h)	100	0.05	440
	315	500	ATV630C31N4 ATV630C31N4MN	878	53550	–	–	–	–	–	–	600 (h)	100	0.04	500
600 Vac Three-phase Evaluated for UL61800-5-1	2.2	3	ATV630U22S6X	47	2880	H●L36015	100	GV3P13	600Y/347	10	25	6	100	10	3
	4	5	ATV630U40S6X	47	2880	H●L36015	100	GV3P13	600Y/347	10	25	10	100	4	6
	5.5	7.5	ATV630U55S6X	47	2880	H●L36020	100	GV3P13	600Y/347	10	25	15	100	4	7
	7.5	10	ATV630U75S6X	47	2880	H●L36025	100	GV3P13	600Y/347	10	25	15	100	2	10
	11	15	ATV630D11S6X	47	2880	H●L36040	100	GV3P18	600Y/347	15	25	25	100	1.1	16
	15	20	ATV630D15S6X	47	2880	H●L36050	100	GV3P25	600Y/347	20	25	30	100	1.1	20
	18.5	25	ATV630D18S6	142	8640	H●L36080	100	GV3P32	600Y/347	25	25	35	100	–	–
	22	30	ATV630D22S6	142	8640	H●L36100	100	GV3P32	600Y/347	25	25	40	100	–	–
	30	40	ATV630D30S6	283	17280	H●L36125	100	GV3P50	600Y/347	40	25	60	100	–	–
	37	50	ATV630D37S6	283	17280	H●L36150	100	GV3P50	600Y/347	40	25	70	100	–	–
	45	60	ATV630D45S6	283	17280	H●L36150	100	GV3P65	600Y/347	50	25	80	100	–	–
	55	75	ATV630D55S6	283	17280	J●L36200	100	–	–	–	–	110	100	–	–
	75	100	ATV630D75S6	283	17280	J●L36250	100	–	–	–	–	150	100	–	–
600 Vac Three-phase Evaluated for UL61800-5-1	1.5	2	ATV630U22Y6	142	8640	H●L36015	100	GV3P13	600Y/347	10	25	6	100	–	–
	2.2	3	ATV630U30Y6	142	8640	H●L36015	100	GV3P13	600Y/347	10	25	10	100	–	–
	3	–	ATV630U40Y6	142	8640	H●L36020	100	GV3P13	600Y/347	10	25	15	100	–	–
	4	5	ATV630U55Y6	142	8640	H●L36020	100	GV3P13	600Y/347	10	25	15	100	–	–
	5.5	7.5	ATV630U75Y6	142	8640	H●L36025	100	GV3P13	600Y/347	10	25	15	100	–	–
	7.5	10	ATV630D11Y6	142	8640	H●L36040	100	GV3P13	600Y/347	10	25	20	100	–	–
	11	15	ATV630D15Y6	142	8640	H●L36050	100	GV3P18	600Y/347	15	25	25	100	–	–
	15	20	ATV630D18Y6	142	8640	H●L36060	100	GV3P25	600Y/347	20	25	30	100	–	–
	18.5	25	ATV630D22Y6	142	8640	H●L36080	100	GV3P32	600Y/347	25	25	35	100	–	–
	22	30	ATV630D30Y6	142	8640	H●L36100	100	GV3P32	600Y/347	25	25	40	100	–	–
	30	40	ATV630D37Y6	283	17280	H●L36125	100	GV3P50	600Y/347	40	25	60	100	–	–
	37	50	ATV630D45Y6	283	17280	H●L36150	100	GV3P50	600Y/347	40	25	70	100	–	–
	45	60	ATV630D55Y6	283	17280	H●L36150	100	GV3P65	600Y/347	50	25	80	100	–	–
	55	75	ATV630D75Y6	283	17280	J●L36200	100	–	–	–	–	110	100	–	–
	75	100	ATV630D90Y6	283	17280	J●L36250	100	–	–	–	–	150	100	–	–

Altivar Process Short Circuit Current Ratings (a) (b) With Conduit Box (Type 1)				Fuses		Line Reactor Min Value (o)	
Input Voltage 50/60 Hz (Y)	Power Ratings in Normal Duty		Catalog Number	600 V Class J (d) (Z1, Z2)	SCCR (X)		
				(A)	(kA)	(mH)	(A)
240 Vac Three-phase Evaluated for UL508C	0.75	1	ATV630U07M3	6	100	—	—
	1.5	2	ATV630U15M3	10	100	—	—
	2.2	3	ATV630U22M3	15	100	—	—
	3	—	ATV630U30M3	20	100	—	—
	4	5	ATV630U40M3	25	100	—	—
	5.5	7.5	ATV630U55M3	35	100	—	—
	7.5	10	ATV630U75M3	45	100	—	—
	11	15	ATV630D11M3	60	100	—	—
	15	20	ATV630D15M3	80	100	—	—
	18.5	25	ATV630D18M3	100	100	—	—
	22	30	ATV630D22M3	100	100	—	—
	30	40	ATV630D30M3	175	100	—	—
	37	50	ATV630D37M3	200	100	—	—
	45	60	ATV630D45M3	200	100	—	—
	55	75	ATV630D55M3 (j)	315	25	—	—
	75	100	ATV630D75M3 (j)	350	25	—	—
480 Vac Three-phase Evaluated for UL508C	0.75	1	ATV630U07N4 ATV650U07N4	3	100	—	—
	1.5	2	ATV630U15N4 ATV650U15N4	6	100	—	—
	2.2	3	ATV630U22N4 ATV650U22N4	10	100	—	—
	3	—	ATV630U30N4 ATV650U30N4	10	100	—	—
	4	5	ATV630U40N4 ATV650U40N4	15	100	—	—
	5.5	7.5	ATV630U55N4 ATV650U55N4	15	100	—	—
	7.5	10	ATV630U75N4 ATV650U75N4	20	100	—	—
	11	15	ATV630D11N4 ATV650D11N4	30	100	—	—
	15	20	ATV630D15N4 ATV650D15N4	40	100	—	—
	18.5	25	ATV630D18N4 ATV650D18N4	50	100	—	—
	22	30	ATV630D22N4 ATV650D22N4	60	100	—	—
	30	40	ATV630D30N4 ATV650D30N4	80	100	—	—
	37	50	ATV630D37N4 ATV650D37N4	90	100	—	—
	45	60	ATV630D45N4 ATV650D45N4	100	100	—	—
	55	75	ATV630D55N4 ATV650D55N4	150	100	—	—
	75	100	ATV630D75N4 ATV650D75N4	200	100	—	—
	90	125	ATV630D90N4 ATV650D90N4	200	100	—	—
	110	150	ATV630C11N4 (j)	250	25	—	—
	132	200	ATV630C13N4 (j)	315	25	—	—
	160	250	ATV630C16N4 (j)	350	25	—	—
	220	350	ATV630C22N4 (k)	500	18	—	—
			ATV630C22N4MN (k)	500	18	0.05	400
	250	400	ATV630C25N4 (l)	600	18	—	—
			ATV630C25N4MN (l)	600	18	0.05	440
	315	500	ATV630C31N4 (l)	600	30	—	—
			ATV630C31N4MN (l)	600	30	0.04	560

Altivar Process Short Circuit Current Ratings (a) (b) With Conduit Box (Type 1)				Fuses		Line Reactor Min Value (o)	
Input Voltage 50/60 Hz (Y)	Power Ratings in Normal Duty		Catalog Number	600 V Class J (d) (Z1, Z2)	SCCR (X)		
	(kW)	(HP)		(A)	(kA)	(mH)	(A)
600 Vac Three-phase Evaluated for UL61800-5-1	2.2	3	ATV630U22S6X	6	100	10	3
	4	5	ATV630U40S6X	10	100	4	6
	5.5	7.5	ATV630U55S6X	15	100	4	7
	7.5	10	ATV630U75S6X	15	100	2	10
	11	15	ATV630D11S6X	25	100	1.1	16
	15	20	ATV630D15S6X	30	100	1.1	20
	18.5	25	ATV630D18S6	35	100	—	—
	22	30	ATV630D22S6	40	100	—	—
	30	40	ATV630D30S6	60	100	—	—
	37	50	ATV630D37S6	70	100	—	—
	45	60	ATV630D45S6	80	100	—	—
	55	75	ATV630D55S6	110	100	—	—
	75	100	ATV630D75S6	150	100	—	—
600 Vac Three-phase Evaluated for UL61800-5-1	1.5	2	ATV630U22Y6 (m)	6	100	—	—
	2.2	3	ATV630U30Y6 (m)	10	100	—	—
	3	—	ATV630U40Y6 (m)	15	100	—	—
	4	5	ATV630U55Y6 (m)	15	100	—	—
	5.5	7.5	ATV630U75Y6 (m)	15	100	—	—
	7.5	10	ATV630D11Y6 (m)	20	100	—	—
	11	15	ATV630D15Y6 (m)	25	100	—	—
	15	20	ATV630D18Y6 (m)	30	100	—	—
	18.5	25	ATV630D22Y6 (m)	35	100	—	—
	22	30	ATV630D30Y6 (m)	40	100	—	—
	30	40	ATV630D37Y6 (n)	60	100	—	—
	37	50	ATV630D45Y6 (n)	70	100	—	—
	45	60	ATV630D55Y6 (n)	80	100	—	—
	55	75	ATV630D75Y6 (n)	110	100	—	—
	75	100	ATV630D90Y6 (n)	150	100	—	—

(a) The amp rating of the short circuit protection devices in the table are maximum values. Smaller amp sizes may be used; particularly for Heavy Duty ratings. Branch circuit protection must be provided in accordance with the National Electrical Code and any additional local codes.

(b) The maximum prospective short circuit current value that cannot be exceeded is 100 kA. Electrical distribution systems with a higher prospective short circuit will cause higher input currents in the front end of the drive.

(c) Circuit breaker part number designations: ● = short circuit current rating.

For 240 V range, use ● = D for 25 kA, G for 65 kA, J for 100 kA, L for 100 kA, R for 100 kA.

For 480 V range, use ● = D for 18 kA, G for 35 kA, J for 65 kA, L for 100 kA, R for 100 kA.

For 600 V range, use ● = D for 14 kA, G for 18 kA, J for 25 kA, L for 50 kA, R for 100 kA.

(d) Use Class CC or J fast acting or time delay.

(e) For GV2P/3P use, 480 V and 600 V ratings are for Wye connected electrical distribution systems. GV2P●● self protected manual combination starter must be used with GV2GH7 insulating barrier to meet UL 508 Type E rating. GV3P●● self protected manual combination starter must be used with GV3G66 + GVAM11 insulating barrier and auxiliary contact to meet UL 508 Type E rating. The GVAM11 provides a visual indication if the GV3P has tripped.

(f) GV2P products detailed below can be used in place of the GV3P products for obtaining SCCR ratings limited to 10 kA.

GV2P16 for GV3P13, GV2P20 for GV3P18, GV2P22 for GV3P25.

(g) Bussmann number: LPJ500SP, do not substitute.

(h) Bussmann number: LPJ600SP, do not substitute.

(i) UL508C Par. 57.1 & UL61800-5-1 Par. 6.3.7DV.2.1.1 require publishing the standard Type E combination motor controller power rating since this is a basic identification marking of type E devices. However, when applied as an input overcurrent protective device for a drive, the rated current of the Type E combination motor controller, not the rated power, is the key parameter for dimensioning (reference UL61800-5-1 Par. 5.2.3.6.2DV.4.1.11 & 5.2.3.6.2DV.4.1.12).

Schneider Electric GV●P Type E combination motor controllers are adjustable, their current range is shown on the adjustment dial and their selection is based on the input current and not the power rating of the drive.

(j) Order VW3A9704.

(k) Order VW3A9212.

(l) Order VW3A9213.

(m) Order VW3A9705.

(n) Order VW3A9706.

(o) Reactor from Altivar Process catalog or MTE series: RLW, do not substitute.

Note:

- Integral solid state short circuit protection in the drive does not provide branch circuit protection. Branch circuit protection must be provided in accordance with the National Electrical Code and any local codes.
- The Altivar Process drive has a 100 kA interrupt rating on the output of the drive. In addition to providing a rating based on shorting the output of the drive, these short circuit current ratings have been obtained by shorting components internal to the Altivar Process. These ratings allow proper coordination of short circuit protection.