

GETTING STARTED



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Manual Overview

Overview of this Publication

The IronHorse General Purpose AC Motor User Manual describes the installation, maintenance and use of all IronHorse General Purpose Motors.

Who Should Read This Manual

This manual contains important information for those who will install, maintain, use and/or resell any of the IronHorse motors.

Technical Support

By Telephone: 770-844-4200
(Mon.-Fri., 9:00 a.m.-6:00 p.m. E.T.)
On the Web: support.automationdirect.com

Our technical support group is glad to work with you in answering your questions. If you cannot find the solution to your particular application, or, if for any reason you need additional technical assistance, please call technical support at **770-844-4200**. We are available weekdays from 9:00 a.m. to 6:00 p.m. Eastern Time.

We also encourage you to visit our web site where you can find technical and non-technical information about our products and our company. Visit us at www.automationdirect.com.

Special Symbols



When you see the “notepad” icon in the left-hand margin, the paragraph to its immediate right will be a special note.



When you see the “exclamation mark” icon in the left-hand margin, the paragraph to its immediate right will be a WARNING. This information could prevent injury, loss of property, or even death (in extreme cases).

Available Models

Single-Phase Motors Features and Specifications

Rolled Steel 56C Frame Single-Phase Motors



IronHorse single-phase 56C frame motors are available from 1/3 hp to 1-1/2 hp. All models have a TEFC rolled steel frame, cast aluminum end bell and removable mounting bases. All motors are NEMA B design.

1800 rpm Motor Specifications & Performance Data

Motor Specifications – Single-Phase 56C Frame Motors – 1800 rpm							
Part Number	HP	Base RPM	Voltage	NEMA Frame	Service Factor	F.L. Amps @ 115V/230V	Approx Weight (lb)
MTR-P33-1AB18	1/3	1800	115/208-230	56C flange mount	1.15	6.6 / 3.3	26
MTR-P50-1AB18	1/2					8.8 / 4.4	28
MTR-P75-1AB18	3/4					11.0 / 5.5	32
MTR-001-1AB18	1					13.6 / 6.8	38
MTR-1P5-1AB18	1-1/2					15.2 / 7.6	45

Note: Please review the AutomationDirect Terms & Conditions for warranty and service on this product.

Performance Data – Single-Phase 56C Frame Motors – 1800 rpm (230V data except as indicated)											
Part Number	HP	F.L. RPM	Current @ 115V/230V (Amps)			Torque (lb-ft)			F.L. Efficiency (%)	F.L. Power Factor	Rotor Inertia (lb-ft ²)
			230V No Load	Full Load	Locked Rotor	Full Load	Locked Rotor	Break - down			
MTR-P33-1AB18	1/3	1725	2.2	6.6 / 3.3	31 / 18	1.02	3.06	2.81	56.0	0.62	0.075
MTR-P50-1AB18	1/2		2.93	8.8 / 4.4	37 / 21	1.52	4.56	4.18	57.0	0.63	0.080
MTR-P75-1AB18	3/4		3.67	11.0 / 5.5	55 / 32	2.29	6.30	5.73	65.0	0.65	0.095
MTR-001-1AB18	1		4.53	13.6 / 6.8	75 / 43	3.04	8.36	7.60	68.0	0.66	0.120
MTR-1P5-1AB18	1-1/2		5.07	15.2 / 7.6	120 / 65	4.57	11.43	10.28	71.0	0.75	0.142

Three-Phase Motors Features and Specifications

Rolled Steel 56C Frame Three-Phase Motors



IronHorse 56C rolled steel frame three-phase motors are available from 1/3 hp to 2 hp. All models have a TEFC frame, cast aluminum end bell and removable mounting bases.

1800 & 3600 rpm Motor Specifications

Motor Specifications – Three-Phase 56C Frame Motors – 1800 & 3600 rpm									
Part Number	HP	Base RPM	Phase	Voltage	Housing	NEMA Frame	Service Factor	F.L. Amps @ 230V/460V	Approx Weight (lb)
1800 RPM			3	208-230/460	TEFC rolled steel frame	56C flange mount	1.15	1800 RPM	
MTR-P33-3BD18	1/3	1800						1.6 / 0.8	23
MTR-P50-3BD18	1/2							2.0 / 1.0	24
MTR-P75-3BD18	3/4							2.8 / 1.4	26
MTR-001-3BD18	1							3.6 / 1.8	29
MTR-1P5-3BD18	1-1/2							4.8 / 2.4	33
MTR-002-3BD18	2				6.0 / 3.0	42			
3600 RPM					F1 conduit box location	3600		3600 RPM	
MTR-P33-3BD36	1/3	1.6 / 0.8						23	
MTR-P50-3BD36	1/2	2.2 / 1.1						24	
MTR-P75-3BD36	3/4	2.9 / 1.5						26	
MTR-001-3BD36	1	3.6 / 1.8						28	
MTR-1P5-3BD36	1-1/2	4.6 / 2.3	34						
MTR-002-3BD36	2	6.0 / 3.0	43						

Note: Please review the AutomationDirect Terms & Conditions for warranty and service on this product.

Three-Phase Motors Features and Specifications (continued)
 Rolled Steel 56C Frame Three-Phase Motors
 1800 rpm Motor Performance Data

Performance Data – Three-Phase 56C Frame Motors – 1800 rpm (460V data except as indicated)									
Part Number	HP	NEMA Design	n/a	F.L. RPM	Minimum Speed (rpm)		Current @ 230V/460V (Amps)		
					CT	VT	No Load	Full Load	Locked Rotor
MTR-P33-3BD18	1/3	B	n/a	1725	900	360	0.53 / 0.27	1.6 / 0.8	8 / 4
MTR-P50-3BD18	1/2						0.67 / 0.33	2.0 / 1.0	12 / 6
MTR-P75-3BD18	3/4						0.93 / 0.47	2.8 / 1.4	18 / 9
MTR-001-3BD18	1						1.2 / 0.6	3.6 / 1.8	24 / 12
MTR-1P5-3BD18	1-1/2						1.53 / 0.77	4.8 / 2.4	36 / 18
MTR-002-3BD18	2						2.0 / 1.0	6.0 / 3.0	48 / 24
Part Number	HP	Torque (lb-ft)			Maximum Speed (rpm)		F.L. Efficiency (%)	F.L. Power Factor	Rotor Inertia (lb-ft ²)
		Full Load	Locked Rotor	Break-down	CHP*	Safe			
MTR-P33-3BD18	1/3	1.02	2.55	2.81	2700	5400	67.0	0.70	0.058
MTR-P50-3BD18	1/2	1.52	3.80	4.18			69.0	0.72	0.068
MTR-P75-3BD18	3/4	2.29	5.73	6.30			71.0	0.74	0.075
MTR-001-3BD18	1	3.02	7.55	8.31			73.0	0.76	0.086
MTR-1P5-3BD18	1-1/2	4.57	10.28	11.43			75.0	0.78	0.108
MTR-002-3BD18	2	6.09	13.70	15.23			77.0	0.80	0.143

* Maximum Constant HP RPM is for direct coupled loads.

Three-Phase Motors Features and Specifications (continued)
 Rolled Steel 56C Frame Three-Phase Motors
 3600 rpm Motor Performance Data

Performance Data – Three-Phase 56C Frame Motors – 3600 rpm (460V data except as indicated)									
Part Number	HP	NEMA Design	n/a	F.L. RPM	Minimum Speed (rpm)		Current @ 230V/460V (Amps)		
					CT	VT	No Load	Full Load	Locked Rotor
MTR-P33-3BD36	1/3	B	n/a	3450	1725	690	1.2 / 0.59	1.6 / 0.8	9 / 5
MTR-P50-3BD36	1/2						1.4 / 0.7	2.2 / 1.1	14 / 7
MTR-P75-3BD36	3/4						1.5 / 0.75	2.9 / 1.5	17 / 8.9
MTR-001-3BD36	1						1.7 / 0.85	3.6 / 1.8	25 / 13
MTR-1P5-3BD36	1-1/2						1.8 / 0.9	4.6 / 2.3	29 / 17
MTR-002-3BD36	2						3.4 / 1.7	6.0 / 3.0	57 / 30
Part Number	HP	Torque (lb-ft)			Maximum Speed (rpm)		F.L. Efficiency (%)	F.L. Power Factor	Rotor Inertia (lb-ft ²)
		Full Load	Locked Rotor	Break-down	CHP*	Safe			
MTR-P33-3BD36	1/3	0.50	3.0	3.0	5400	5400	57.0	0.71	0.084
MTR-P50-3BD36	1/2	0.75	4.4	4.5			62.0	0.71	0.095
MTR-P75-3BD36	3/4	1.13	6.0	5.8			67.0	0.78	0.107
MTR-001-3BD36	1	1.50	7.9	7.1			69.0	0.82	0.122
MTR-1P5-3BD36	1-1/2	2.25	11.2	8.4			72.0	0.85	0.143
MTR-002-3BD36	2	3.00	21.5	13.9			75.0	0.78	0.188

* Maximum Constant HP RPM is for direct coupled loads.

Three-Phase Motors Features and Specifications (continued)

Cast Iron T-Frame



Cast Iron TC-Frame



IronHorse 1800 rpm T-frame cast iron industrial duty motors are available from 1–300 hp, and TC-frame motors are available from 1–100 hp. Optional C-face kits are available for all IronHorse T-frame motors. All models have a TEFC frame and full length mounting feet.

1800 rpm Motor Specifications

Motor Specifications – T & TC ⁽¹⁾ Frame Three-Phase Motors – 1800 rpm										
Part Number	HP	NEMA Frame	Voltage	Housing	Shaft Material	Conduit Box Location ⁽²⁾	Holes/Foot	Service Factor	F.L. Amps @ 230V/460V	Approx Ship Weight (lb)
MTC-001-3BD18	1	143T	208-230/460	TEFC cast iron	1045 CS	F1(F2)	2	1.15	3.0 / 1.5	55
MTC-001-3BD18CK ⁽¹⁾		143TC								61
MTC-1P5-3BD18	1.5	145T				F1(F2)	3		4.2 / 2.1	55
MTC-1P5-3BD18CK ⁽¹⁾		145TC								67
MTC-002-3BD18	2	145T				F1(F2)	3		5.4 / 2.7	60
MTC-002-3BD18CK ⁽¹⁾		145TC								69
MTC-003-3BD18	3	182T				F1(F2)	2		7.72 / 3.86	90
MTC-003-3BD18CK ⁽¹⁾⁽³⁾		182TC								112 ⁽³⁾
MTC-005-3BD18 ⁽³⁾	5	184T				F1(F2)	3		11.8 / 5.9	110 ⁽³⁾
MTC-005-3BD18CK ⁽¹⁾⁽³⁾		184TC								125 ⁽³⁾
MTC-7P5-3BD18 ⁽³⁾	7.5	213T	F1(F2)	2	18.6 / 9.3	150 ⁽³⁾				
MTC-7P5-3BD18CK ⁽¹⁾⁽³⁾		213TC				170 ⁽³⁾				

1) TC-frame motors are T-frame motors with applicable C-face accessory kits installed.
 2) F1(F2) indicates F1 conduit box mounting location, field convertible to F2. (Refer to "Chapter 5: Reference" for further information regarding F1 and F2 mounting.)
 NOTES 3 & 4: Please review the AutomationDirect Terms & Conditions for warranty and service on this product.
 3) For motors weighing over 100 lbs: A) LTL shipment required. B) Order before 4:00 p.m. EST for same day shipment. C) You must have a receiving loading dock. D) Not available in Hawaii or Puerto Rico.
 4) For warranty on motors 50 hp and above, motors must be inspected by an EASA motor repair or service center. See AutomationDirect Terms & Conditions for details.

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Motor Specifications – T & TC ⁽¹⁾ Frame Three-Phase Motors – 1800 rpm										
Part Number	HP	NEMA Frame	Voltage	Housing	Shaft Material	Conduit Box Location ⁽²⁾	Holes/Foot	Service Factor	F.L. Amps @ 230V/460V	Approx Ship Weight (lb)
MTC-010-3BD18 ⁽³⁾	10	215T	208-230/460	TEFC cast iron	1045 CS	F1(F2)	3	1.15	24.8 / 12.4	179 ⁽³⁾
MTC-010-3BD18CK ⁽¹⁾⁽³⁾		215TC								198 ⁽³⁾
MTC-015-3BD18 ⁽³⁾	15	254T				F1(F2)	2		35.4 / 17.7	290 ⁽³⁾
MTC-015-3BD18CK ⁽¹⁾⁽³⁾		254TC								310 ⁽³⁾
MTC-020-3BD18 ⁽³⁾	20	256T				F1(F2)	3		47.6 / 23.8	326 ⁽³⁾
MTC-020-3BD18CK ⁽¹⁾⁽³⁾		256TC								360 ⁽³⁾
MTC-025-3BD18 ⁽³⁾	25	284T				F1	2		56.4 / 28.2	400 ⁽³⁾
MTC-025-3BD18CK ⁽¹⁾⁽³⁾		284TC								440 ⁽³⁾
MTC-030-3BD18 ⁽³⁾	30	286T				F1	3		67.2 / 33.6	451 ⁽³⁾
MTC-030-3BD18CK ⁽¹⁾⁽³⁾		286TC								470 ⁽³⁾
MTC-040-3BD18 ⁽³⁾	40	324T				F1	2		93.0 / 46.5	589 ⁽³⁾
MTC-040-3BD18CK ⁽¹⁾⁽³⁾		324TC								608 ⁽³⁾
MTC-050-3BD18 ⁽³⁾⁽⁴⁾	50 ⁽⁴⁾	326T				F1	3		114.6 / 57.3	640 ⁽³⁾
MTC-050-3BD18CK ⁽¹⁾⁽³⁾⁽⁴⁾		326TC								652 ⁽³⁾
MTC-060-3BD18 ⁽³⁾⁽⁴⁾	60 ⁽⁴⁾	364T				F1	2		139.4 / 69.7	760 ⁽³⁾
MTC-060-3BD18CK ⁽¹⁾⁽³⁾⁽⁴⁾		364TC								777 ⁽³⁾
MTC-075-3BD18 ⁽³⁾⁽⁴⁾	75 ⁽⁴⁾	365T				F1	3		172.8 / 86.4	803 ⁽³⁾
MTC-075-3BD18CK ⁽¹⁾⁽³⁾⁽⁴⁾		365TC								837 ⁽³⁾
MTC-100-3BD18 ⁽³⁾⁽⁴⁾	100 ⁽⁴⁾	405T	F1	3	230 / 115	1300 ⁽³⁾				
MTC-100-3BD18CK ⁽¹⁾⁽³⁾⁽⁴⁾		405TC				1335 ⁽³⁾				
MTC-125-3BD18 ⁽³⁾⁽⁴⁾	125 ⁽⁴⁾	444T	F1(F2)	2	274 / 137	1433 ⁽³⁾				
MTC-150-3BD18 ⁽³⁾⁽⁴⁾	150 ⁽⁴⁾	445T	F1(F2)	3	326 / 163	1575 ⁽³⁾				
MTC-200-3BD18 ⁽³⁾⁽⁴⁾	200 ⁽⁴⁾	445/7T	F1(F2)	3	446 / 223	1858 ⁽³⁾				
MTC-250-3D18 ⁽³⁾⁽⁴⁾	250 ⁽⁴⁾	449T	460	4140 CS	F1	2	- / 282	2508 ⁽³⁾		
MTC-300-3D18 ⁽³⁾⁽⁴⁾	300 ⁽⁴⁾	449T					- / 334	2728 ⁽³⁾		

1) TC-frame motors are T-frame motors with applicable C-face accessory kits installed.
 2) F1(F2) indicates F1 conduit box mounting location, field convertible to F2 (ref dimen diag).
 NOTES 3 & 4: Please review the AutomationDirect Terms & Conditions for warranty and service on this product.
 3) For motors weighing over 100 lbs: A) LTL shipment required. B) Order before 4:00 p.m. EST for same day shipment. C) You must have a receiving loading dock. D) Not available in Hawaii or Puerto Rico.
 4) For warranty on motors 50 hp and above, motors must be inspected by an EASA motor repair or service center. See AutomationDirect Terms & Conditions for details.

Three-Phase Motors Features and Specifications (continued)
 Cast Iron T-Frame – 1200 & 3600 rpm Motor Specifications

Motor Specifications – T-Frame Three-Phase Motors – 1200 & 3600 rpm											
Part Number	HP	NEMA Frame	Voltage	Housing	Shaft Material	Conduit Box Location ⁽²⁾	Holes/Feet	Service Factor	F.L. Amps @ 230V/460V	Approx Ship Weight (lb)	
1200 rpm Base Speed											
MTC-001-3BD12	1	145T	208-230/460	TEFC cast iron	1045 carbon steel	F1(F2)	4	1.15	3.2 / 1.6	65	
MTC-1P5-3BD12 (3)	1.5	182T							2	4.8 / 2.4	100 (3)
MTC-002-3BD12 (3)	2	184T							4	6.1 / 3.1	105 (3)
MTC-003-3BD12 (3)	3	213T							2	8.4 / 4.2	155 (3)
MTC-005-3BD12 (3)	5	215T							4	13.6 / 6.8	175 (3)
MTC-7P5-3BD12 (3)	7.5	254T							2	21.2 / 10.6	300 (3)
MTC-010-3BD12 (3)	10	256T							4	28.0 / 14.0	340 (3)
3600 rpm Base Speed											
MTC-1P5-3BD36	1.5	143T	208-230/460	TEFC cast iron	1045 carbon steel	F1(F2)	2	1.15	3.8 / 1.9	50	
MTC-002-3BD36	2	145T							4	5.0 / 2.5	60
MTC-003-3BD36 (3)	3	182T							2	7.2 / 3.6	100 (3)
MTC-005-3BD36 (3)	5	184T							4	11.3 / 5.7	110 (3)
MTC-7P5-3BD36 (3)	7.5	213T							2	16.8 / 8.4	148 (3)
MTC-010-3BD36 (3)	10	215T							4	22.4 / 11.2	181 (3)
<p>2) F1(F2) indicates F1 conduit box mounting location, field convertible to F2. (Refer to "Chapter 5: Reference" for further information regarding F1 and F2 mounting.)</p> <p>NOTE 3: Please review the AutomationDirect Terms & Conditions for warranty and service on this product.</p> <p>3) For motors weighing over 100 lbs: A) LTL shipment required. B) Order before 4:00 p.m. EST for same day shipment. C) You must have a receiving loading dock. D) Not available in Hawaii or Puerto Rico.</p>											

Three-Phase Motors Features and Specifications (continued)
 Cast Iron T-Frame – 1800 rpm Motor Performance Data

Performance Data – T & TC ⁽¹⁾ Frame Three-Phase Motors – 1800 rpm (460 Volt except as indicated)							
Part Number	HP	NEMA Design	F.L. RPM	Minimum Speed (rpm)		Current @230V/460V (Amps)	
				Constant Torque (CT)	Variable Torque (VT)	Full Load	No Load
MTC-001-3BD18(CK)	1	B	1760	900	360	3.0 / 1.5	1.9 / 0.95
MTC-1P5-3BD18(CK)	1.5		1755			4.2 / 2.1	2.44 / 1.22
MTC-002-3BD18(CK)	2		1750			5.4 / 2.7	2.76 / 1.38
MTC-003-3BD18(CK)	3		1750			7.72 / 3.86	3.74 / 1.87
MTC-005-3BD18(CK)	5		1750			11.8 / 5.9	5.1 / 2.55
MTC-7P5-3BD18(CK)	7.5		1760			18.6 / 9.3	8.98 / 4.49
MTC-010-3BD18(CK)	10	A	1760			24.8 / 12.4	13.0 / 6.5
MTC-015-3BD18(CK)	15		1770			35.4 / 17.7	15.6 / 7.8
MTC-020-3BD18(CK)	20		1770			47.6 / 23.8	19.0 / 9.5
MTC-025-3BD18(CK)	25		1775			56.4 / 28.2	24.0 / 12.0
MTC-030-3BD18(CK)	30		1775			67.2 / 33.6	27.0 / 13.5
MTC-040-3BD18(CK)	40		1775			93.0 / 46.5	35.0 / 17.5
MTC-050-3BD18(CK)	50	B	1775			114.6 / 57.3	38.6 / 19.3
MTC-060-3BD18(CK)	60		1785			139.4 / 69.7	48.0 / 24.0
MTC-075-3BD18(CK)	75		1785			172.8 / 86.4	59.2 / 29.6
MTC-100-3BD18(CK)	100		1785			230 / 115	72.0 / 36.0
MTC-125-3BD18	125		1785			274 / 137	82.0 / 41.0
MTC-150-3BD18	150		1785			326 / 163	97.6 / 48.8
MTC-200-3BD18	200	B	1785	446 / 223	140 / 70.0		
MTC-250-3D18	250		1790	- / 282	- / 85.6		
MTC-300-3D18	300		1790	- / 334	- / 96.6		

1) TC-frame motors (MTC-xxx-xxxxCK) are T-frame motors with applicable C-face accessory kits installed.

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*** TABLE CONTINUED FROM PREVIOUS PAGE ***								
Performance Data – T & TC ⁽¹⁾ Frame 3-Phase Motors – 1800 rpm (continued) (460 Volt except as indicated)								
Part Number	HP	Torque (lb-ft)		Maximum Speed (rpm)		F.L. Efficiency (%)	F.L. Power Factor	Rotor Inertia (lb-ft ²)
		Full Load	Breakdown	CHP ⁽²⁾	Safe			
MTC-001-3BD18(CK)	1	3.00	10.50	2700	5400	82.5	0.71	0.068
MTC-1P5-3BD18(CK)	1.5	4.41	14.11		5400	84.0	0.74	0.083
MTC-002-3BD18(CK)	2	6.05	17.55		5400	84.0	0.77	0.09
MTC-003-3BD18(CK)	3	9.07	29.93		5400	87.5	0.81	0.22
MTC-005-3BD18(CK)	5	15.1	46.8		5400	87.5	0.84	0.285
MTC-7P5-3BD18(CK)	7.5	22.0	72.6		5400	89.5	0.81	0.602
MTC-010-3BD18(CK)	10	29.8	92.4		4200	89.5	0.83	0.742
MTC-015-3BD18(CK)	15	44.5	124.6		4200	91.0	0.83	1.71
MTC-020-3BD18(CK)	20	59.7	155.2		4200	91.0	0.84	2.18
MTC-025-3BD18(CK)	25	73.9	206.9		4200	92.4	0.87	3.3
MTC-030-3BD18(CK)	30	88.7	257.2		4200	92.4	0.86	3.76
MTC-040-3BD18(CK)	40	118.3	354.9		3600	93.0	0.86	5.84
MTC-050-3BD18(CK)	50	148	444		3600	93.0	0.86	6.34
MTC-060-3BD18(CK)	60	179	483		3600	93.6	0.85	11.4
MTC-075-3BD18(CK)	75	221	530		3600	94.1	0.84	12.7
MTC-100-3BD18(CK)	100	296	858		2800	94.5	0.87	28.5
MTC-125-3BD18	125	355	888		2800	94.5	0.86	38.9
MTC-150-3BD18	150	433	1083		2800	95.0	0.87	47.2
MTC-200-3BD18	200	590	1652		2800	95.0	0.87	62.3
MTC-250-3D18	250	728	2402		2800	95.9	0.87	86.0
MTC-300-3D18	300	864	2817	2800	95.7	0.88	105.0	
1) TC-frame motors (MTC-xxx-xxxxCK) are T-frame motors with applicable C-face accessory kits installed.								
2) Maximum Constant HP RPM is for direct coupled loads.								
*** TABLE CONTINUED ON NEXT PAGE ***								

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Performance Data – T & TC ⁽¹⁾ Frame 3-Phase Motors – 1800 rpm (continued) – (460 Volt except as indicated)						
Part Number	HP	Temperature Rise @ Full Load	Locked Rotor Torque (%)	Locked Rotor Amps 230V/460V	Max Time Locked Rotor (Hot)	Slip (%)
MTC-001-3BD18(CK)	1	80° C (176°F)	250	30.0 / 15.0	20 seconds	2.22
MTC-1P5-3BD18(CK)	1.5		240	40.0 / 20.0		2.50
MTC-002-3BD18(CK)	2		230	50.0 / 25.0		2.78
MTC-003-3BD18(CK)	3		280	64.0 / 32.0		
MTC-005-3BD18(CK)	5		270	92.0 / 46.0		
MTC-7P5-3BD18(CK)	7.5		200	127 / 63.5	2.22	
MTC-010-3BD18(CK)	10			200 / 100	13 seconds	2.20
MTC-015-3BD18(CK)	15			280 / 140	20 seconds	1.67
MTC-020-3BD18(CK)	20		400 / 200			
MTC-025-3BD18(CK)	25		206	440 / 220	16 seconds	1.38
MTC-030-3BD18(CK)	30		200	520 / 260		
MTC-040-3BD18(CK)	40		210	720 / 360	20 seconds	1.39
MTC-050-3BD18(CK)	50			880 / 440		
MTC-060-3BD18(CK)	60		180	870 / 435		20 seconds
MTC-075-3BD18(CK)	75			1086 / 543		
MTC-100-3BD18(CK)	100		200	1450 / 725	15 seconds	0.83
MTC-125-3BD18	125		175	1815 / 908		
MTC-150-3BD18	150		180	2170 / 1085		
MTC-200-3BD18	200		200	2900 / 1450		
MTC-250-3D18	250	85° C (185°F)	228	- / 2017	20 seconds	0.54
MTC-300-3D18	300		226	- / 2351		0.53

1) TC-frame motors (MTC-xxx-xxxxCK) are T-frame motors with applicable C-face accessory kits installed.

Three-Phase Motors Features and Specifications (continued)
 Cast Iron T-Frame – 1200 rpm Motor Performance Data

Performance Data – T-Frame Three-Phase Motors – 1200 rpm (460 Volt except as indicated)							
Part Number	HP	NEMA Design	F.L. RPM	Minimum Speed (rpm)		Maximum Speed (rpm)	
				Constant Torque (CT)	Variable Torque (VT)	CHP ⁽²⁾	Safe
MTC-001-3BD12	1	B	1150	600	240	1800	3600
MTC-1P5-3BD12	1.5		1170				
MTC-002-3BD12	2						
MTC-003-3BD12	3						
MTC-005-3BD12	5						
MTC-7P5-3BD12	7.5	A	1180				
MTC-010-3BD12	10						
Part Number	HP	Current @ 230V/460V (Amps)			Torque (lb-ft)		
		No Load	Full Load	Locked Rotor	Full Load	Locked Rotor	Break-down
MTC-001-3BD12	1	3.2 / 1.6	3.2 / 1.6	25.0 / 12.5	4.59	11.47	14.69
MTC-1P5-3BD12	1.5	3.5 / 1.8	4.8 / 2.4	40.0 / 20.0	6.60	18.5	24.4
MTC-002-3BD12	2	4.0 / 2.0	6.1 / 3.1	50.0 / 25.0	9.02	24.4	30.7
MTC-003-3BD12	3	4.7 / 2.4	8.4 / 4.2	64.0 / 32.0	13.4	22.8	37.5
MTC-005-3BD12	5	7.3 / 3.7	13.6 / 6.8	92.0 / 46.0	22.2	37.7	53.3
MTC-7P5-3BD12	7.5	12.6 / 6.3	21.2 / 10.6	127 / 63.5	32.9	75.7	98.7
MTC-010-3BD12	10	7.6 / 3.8	28.0 / 14.0	168 / 84.0	44.8	98.6	139
Part Number	HP	Temperature Rise @ Full Load	Max Time Locked Rotor (Hot)	Rotor Inertia (lb-ft ²)	Slip (%)	F.L. Efficiency (%)	F.L. Power Factor
MTC-001-3BD12	1	80° C (176°F)	20 seconds	0.009	3.3	81.1	0.72
MTC-1P5-3BD12	1.5			0.068	2.5	85.5	0.65
MTC-002-3BD12	2			0.100	2.5	86.5	0.70
MTC-003-3BD12	3			0.207	1.7	87.5	0.72
MTC-005-3BD12	5			0.258	1.7	87.5	0.72
MTC-7P5-3BD12	7.5			0.480	1.7	89.5	0.71
MTC-010-3BD12	10			2.487	1.7	89.5	0.74

2) Maximum Constant HP RPM is for direct coupled loads

Three-Phase Motors Features and Specifications (continued)
 Cast Iron T-Frame – 3600 rpm Motor Performance Data

Performance Data – T-Frame Three-Phase Motors – 3600 rpm (460 Volt except as indicated)								
Part Number	HP	NEMA Design	F.L. RPM	Minimum Speed (rpm)		Maximum Speed (rpm)		
				Constant Torque (CT)	Variable Torque (VT)	CHP ⁽²⁾	Safe	
MTC-1P5-3BD36	1.5	B	3480	1800	720	5400	5400	
MTC-002-3BD36	2							
MTC-003-3BD36	3		3520					
MTC-005-3BD36	5		3510					
MTC-7P5-3BD36	7.5		3520					
MTC-010-3BD36	10		3530					
Part Number	HP	Current @ 230V/460V (Amps)			Torque (lb·ft)			
		No Load	Full Load	Locked Rotor	Full Load	Locked Rotor	Break-down	
MTC-1P5-3BD36	1.5	1.4 / 0.7	3.8 / 1.9	40.0 / 20.0	2.23	4.01	5.58	
MTC-002-3BD36	2	1.5 / 0.8	5.0 / 2.5	50.0 / 25.0	3.03	6.06	8.18	
MTC-003-3BD36	3	2.8 / 1.4	7.2 / 3.6	64.0 / 32.0	4.50	10.4	16.2	
MTC-005-3BD36	5	4.0 / 2.0	11.3 / 5.7	92.0 / 46.0	7.46	15.7	26.5	
MTC-7P5-3BD36	7.5	5.0 / 2.5	16.8 / 8.4	127 / 63.5	11.0	22.0	36.3	
MTC-010-3BD36	10	5.7 / 2.8	22.4 / 11.2	162 / 81.0	15.0	33.0	49.5	
Part Number	HP	Temperature Rise @ Full Load	Max Time Locked Rotor (Hot)	Rotor Inertia (lb·ft ²)	Slip (%)	F.L. Efficiency (%)	F.L. Power Factor	
MTC-1P5-3BD36	1.5	80° C (176°F)	20 seconds	0.009	3.3	82.5	0.86	
MTC-002-3BD36	2			0.010	3.3	84.0	0.87	
MTC-003-3BD36	3			0.034	2.2	85.5	0.86	
MTC-005-3BD36	5			0.040	2.5	87.5	0.88	
MTC-7P5-3BD36	7.5			0.258	2.2	88.5	0.89	
MTC-010-3BD36	10			0.109	1.9	89.5	0.89	

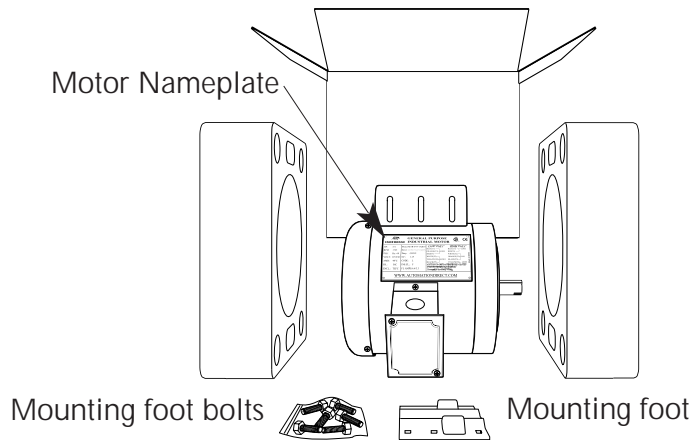
2) Maximum Constant HP RPM is for direct coupled loads

Receiving and Inspection

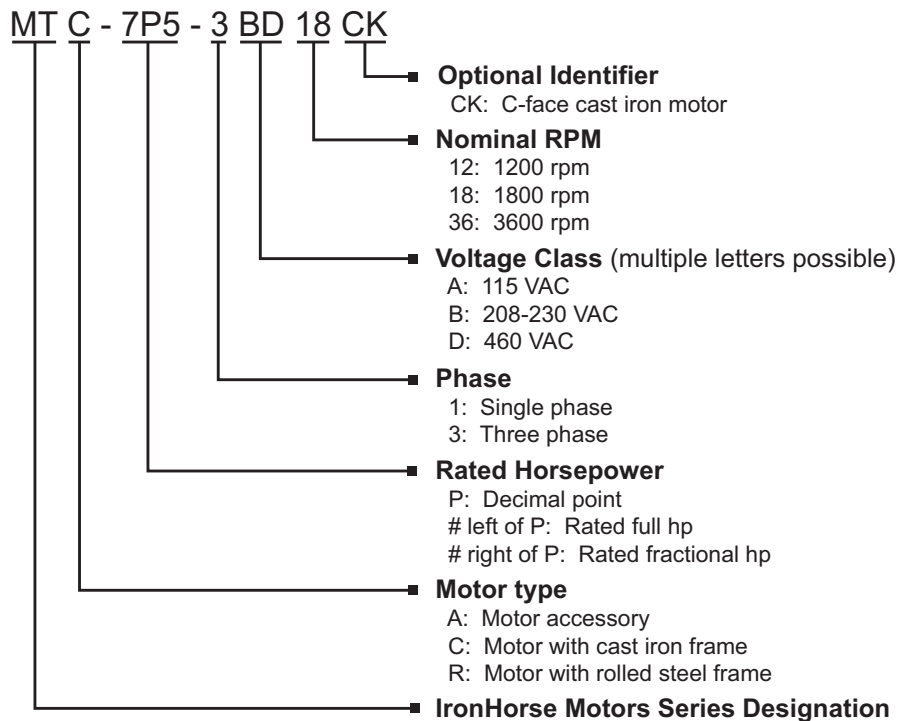
Unpacking

After receiving an IronHorse motor, please check for the following:

- Open the motor packaging and inspect for damage during shipment.
- Make sure the part number indicated on the motor nameplate corresponds with the part number on your order.
- For all 56C framed motors, make sure that the shipment contains the motor, the removable mounting foot and six mounting foot bolts.
- Read the enclosed Product Advisory.



IronHorse Part Number Information



Reshipping

If an IronHorse motor needs to be reshipped from the initial shipping point, the following procedures should be followed to protect the motor from damage.

1. If the original packaging is to be used for reshipment, inspect the packaging for previous shipping damage and repackage if necessary. Take care to protect the motor body, fan cover and shaft.
2. It is a good idea to bolt the motor to a platform that fits securely in the bottom of the shipping crate or box. This helps prevent the motor from shifting during transport and thus protects the bearings from damage.
3. A shaft lock device should be installed on motors from 100 to 300 hp prior to shipment. The shaft lock helps prevent bearing damage.
4. Motors should only be lifted by the the eyebolt(s) provided on the motor. When lifting motors with more than one eyebolt, use every bolt provided.

Long Term Storage

The following preventative measures should be taken when storing IronHorse motors for a long period of time.

1. Store motors in a controller temperature, dry atmosphere free of excess dirt, dust and airborne particles.
2. Rotate the motor shaft every sixty days to prevent hardening of the bearing grease.
3. Warehoused motors should have the bearing grease purged and replaced every six months. Use only Exxon POLYREX® EM Polyurea grease.

Warranty

IronHorse motors carry a two year warranty from the date of invoice. All warranty issues must first be evaluated by AutomationDirect technical support services. For motors 40 hp and smaller, valid warranty claims will be resolved by product replacement. Motors 50 hp and larger must be evaluated by an authorized Electrical Apparatus Service Association (EASA) service center. Valid warranty claims will be resolved by repair or replacement at the discretion of AutomationDirect. See AutomationDirect Terms and Conditions in our current catalog or online at <http://www.automationdirect.com/static/specs/adpolicy.pdf> for complete details.

Authorized EASA service centers are available nationwide. Visit the EASA website at www.easa.com to find the nearest authorized service center. These shops may also be able to assist with non-warranty service.